

AUDIO MEDIA

THE WORLD'S LEADING PROFESSIONAL AUDIO TECHNOLOGY MAGAZINE

Next Gen' Audio Compression For
Pro Tools, AU, and VST...

Sonnox Fraunhofer Pro-Codec

*Master Of
The Masses?*

FINAL CUT:
**Battlefield:
Bad Company 2**

BAFTA Winner

Product Sampler

21 Recorders

THE INTERNATIONAL
BUYER'S GUIDE

**MONITORING &
HEADPHONES
2011**

AUDIO MEDIA

RADIO WORLD PRO SOUND

Special Supplement

**Monitoring &
Headphones**

A NEWBAY MEDIA PUBLICATION



WORLDWIDE EDITION

ISSUE 246 • MAY 2011 • UK £3.80

**Prolight+Sound
Show Report**

Over 60 companies listed!

contents

I S S U E 2 4 6 • M A Y • 2 0 1 1

REGULARS

GEOFOCUS: NETHERLANDS 24

JIM EVANS finds out how TM Audio and Lightco have worked together to fit out De Vorstin in the Netherlands.

WHAT'S UP UK 26

KEVIN HILTON finds out what Peel's bid for Pinewood could mean for the studio.

CUT SCENE 28

The annual games-fest starts to come together for Develop 2011, and we look at some highlights of the programme so far.

FINAL CUT: BATTLEFIELD: BAD COMPANY 2 36

Having won the BAFTA for Use of Audio, the audio creators of *Bad Company's* sequel at DICE talk to JOHN BROOMHALL about what makes this game so special.

VIDEO GUIDE 54

Quantel gets a closer look in comparison to newer manufacturers, as KEVIN HILTON considers the players on the field of colour correction today.

CLASSIC CUT: NO COUNTRY FOR OLD MEN 58

STEPHEN DEUTSCH uncovers how when sound and music are considered early in the production process, they can become so integral as to become invisible.

FEATURES

PROLIGHT + SOUND SHOW REPORT 6

A bumper-packed show report with all the latest releases, updates, and news hot from Frankfurt.

PRODUCTION REPORT: PAPA SANGRE 40

LISA GEE steals a creative insight into the game with graphics limited only by imagination, and a world defined only by sound.

NEWS

RECORDING 16

Lynx says hello to Hilo; Native Instruments Completes the picture; Olympic LS20 is ready to record.

BROADCAST/NAB 18

SSL upgrades its broadcast consoles; Riedel launches MediorNet; Minnetonka wins with ACLS and AWE; Axia Radius – low cost IP console; new DK compact meter.

POST 22

Voice & Music becomes Soho Square Studios; CEDAR respeed launches; Alcons install at Universal Pictures.

REVIEWS

SONNOX FRAUNHOFER PRO CODEC 38

PAUL MAC enjoys a testing time with the pro codec plug-in that assures perfect quality.

WAVES ONEKNOB 44

Onenob actually multi-tasks beautifully via a fuss-free and simple interface, says STEPHEN BENNETT.

UAD-2 SATELLITE 46

The range of UAD plug-ins are brought to a new audience with the UAD-2 Satellite, says SIMON TILLBROOK, but just how good will they be?

ELECTRO-VOICE RE320 48

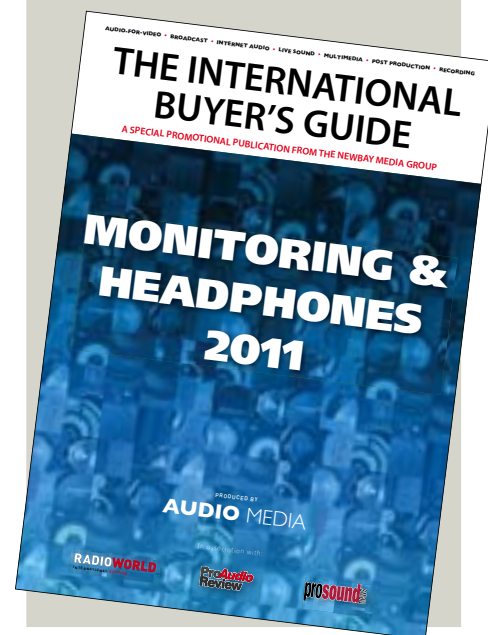
Electro-voice seems to have done the near-impossible, says ROB TAVAGLIONE – updated the classic RE20 to even closer perfection.

PRODUCT SAMPLER: RECORDERS 50

AUDIO MEDIA whittles down the recorders list to present some of the very best for any number of applications.

Special Supplement

Monitoring & Headphones



RUSHES

NEUMANN KH120 30

The KH 120 studio monitors utterly convince with a sound so unremarkable as to be quite remarkable, says ALISTAIR MCGHEE.

DIGICO SD10 & SD10B 32

With just a few tweaks, the SD10 can just as perfectly take to the stage as to the studio, says STEPHEN BENNETT.

ROLAND M-480 & R-1000 33

Roland branches out with its new live console and recorder. STEPHEN BENNETT finds out just why these will work so well in a field occupied with dominant players.

LITTLE LABS 500 SERIES VOG 34

All beef without the muddy clutter, says SIMON TILLBROOK of the little bass resonance tool.

SHADOW HILLS OPTOGRAPH 35

Despite setting a high bar for itself, the latest Shadow Hills release doesn't disappoint, says SIMON TILLBROOK.

WE DON'T BELIEVE IN AUTOMATION



The Human Touch

HANDLED WITH CARE

- **Only sE...**

can do this because only sE employs highly skilled engineers to hand craft all of our products and accessories.

- **Only sE...**

can offer a limited 'Lifetime Replacement Warranty' on all our products.

- **Only sE...**

can offer our 'Zero Downtime' warranty on all our products, meaning you'll get an immediate replacement from new stock for any mic with a manufacturing defect, no long wait for repairs.

0845.500.2.500
www.sonic-distribution.com

SONIC



Sound Engineering
www.soelectronics.com

If your sE microphone/accessory fails due to a manufacturing defect within the first 3 years we will replace it immediately under our 'FREE Replacement Warranty' with a brand new mic. The replacement mic also has a 3 year FREE replacement warranty and this means a lifetime of free warranties for mics with manufacturing defects. 'Zero Downtime' means that you will never have to wait for repairs since you'll get a replacement for any faulty mic from stock. There is no expiration date on this policy.

If the product develops a fault more than 3 years from purchase, we would consider this as 'wear and tear' and we then offer an 'Upgrade Warranty' which allows you, the customer, to purchase a brand new replacement (or equivalent sE product) direct from sE Electronics in the UK at 50% off the list price at the time of replacement purchase.

leader



I wonder sometimes if combining music fans, artists, technologists, and engineers into single beings is such a good idea. Producers are a funny bunch, and they go even funnier when the balance is tipped too far one way. I think it's fine to give infamous producers – and engineers too – a kind of rock star status. It's the hierarchy we're happy with. After all, many people in audio were music fans in the beginning, so we're comfortable attaching 'legendary status' to those who have pioneered the art, or have pushed forward technological boundaries, and so on. The reward of the recognition of peers is also a great motivation to excellence. After all, if studio salaries were the only incentive, the industry would be a dark place.

If we cross the line into arrogance, however, we are definitely in danger. If you ever think that audio is more difficult, or more (big picture) important, or more exclusively ours than any other professional endeavour in any subject or sphere, then it's time to get perspective. That way lays the path of a prima donna. And nobody likes prima donnas.

Is idealism to the point where you are fighting against the popular (salary paying) masses, another kind of artistic arrogance? If you consider the art of heavy compression so a song sounds great on the radio is a terrible, unmentionable thing, then aren't you cutting off your nose? If you consider the mp3 or AAC to be the work of a demon, then aren't you biting the hand?

Successful rock stars sometimes do a bit of messing about in the middle of the playlist, sure, but for the finale, and the encores, they give the audience what they want – what is popular – to the best of their ability. It's our love of quality audio that keeps our aspirations high, and that is right. But it should be a love of others loving music that informs professionalism and service.

Paul Mac, *Editor*

I would like to thank all the generous pro audio companies and individuals who donated money to the National Deaf Children's society on the back of my London Marathon run. We've raised almost £2,500 for the NDCS.

Paul Mac, *Editor*



AUDIOMEDIA is a Sustaining Member of the Audio Engineering Society.

AUDIOMEDIA

www.audiomedia.com

AUDIO MEDIA (Europe), Suite L16, South Fens Business Centre,
Fenton Way, Chatteris, Cambs, PE16 6TT

Telephone: +44 (0) 1354 669960 – Facsimile: +44 (0) 1354 669965

General E-mail: mail@audiomedia.com – Press Release E-mail: pr@audiomedia.com

Managing Director/Circulation

Angela Brown

a.brown@audiomedia.com

Group Publisher Europe

Raffaella Calabrese

r.calabrese@broadcast.it

Editor In Chief

Paul Mac

p.mac@audiomedia.com

News/AMSR Editor

Jo Fletcher-Cross

pr@audiomedia.com

Production Editor

Lanna Marshall

l.marshall@audiomedia.com

Design & Production Manager

John-Paul Shirreffs

jp.shirreffs@audiomedia.com

European Sales Manager

Graham Kirk

g.kirk@audiomedia.com

Acting News Editor

David Mackenzie

d.mackenzie@audiomedia.com

Regional Sales Manager

Bob Kennedy

bkennedy@imaspub.com

+44 (0) 1279 861264

US Sales Manager

David Carson

dcarson@nbmedia.com

+1 (212) 378 0400 ext.511

Subscriptions

subs@audiomedia.com

UK £43

European (airmail) £60

International (airmail) £72

Payable in Sterling through UK bank



REVIEW

DiGiCo SD10 & SD10B

32



RUSHES

Shadow Hills Optograph

35



FEATURE

Papa Sangre

40



REVIEW

UAD-2 Satellite

46

ADVERTISERS INDEX

Adam Audio	22	Orbital	16
Audio-Technica	10	Prism Sound	13, 42
DiGiCo	60	Radial	59
Fostex	12	Roland RSG	14, 31
Genelec	11	Solid State Logic	18-19
HNB	23	Sonic Distribution	3, 5, 29, 49
InfoComm	53	Sonnox	9
JoeCo	51	Tascam	40
KMR Audio	15	Unity Audio	43
Lawo	21		
Midas	41		
NewBay Media	27		



www.nbmedia.com

The contents of this publication are subject to worldwide copyright protection and reproduction in whole or in part, whether mechanical or electronic, is expressly forbidden without the prior written consent of the Publishers. Great care is taken to ensure accuracy in the preparation of this publication but neither IMAS Publishing (UK) Limited nor the Editor can be held responsible for its contents. The views expressed are those of the contributors and not necessarily those of the Publishers or Editor. The Publishers accept no responsibility for the return of unsolicited manuscripts, photographs, or artwork.

© 2011 IMAS Publishing (UK) Limited. All rights reserved.
*Within Broadcast & Production

WAVES TUNE LT



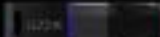
FREE Waves Tune LT with all sE vocal mics* and Reflexion Filter Pro



'We have 5000 copies of Waves Tune lite, worth \$200 retail, to give away FREE with all purchases of sE qualifying mics and Reflexion Filter Pro products from Jan 1st 2011'

Waves Tune LT is a special edition of Waves Tune delivering the same great sound as Waves Tune, using an intuitive interface, and simplified controls. If you've just wrapped up an amazing vocal take, where the phrasing, the emotion and the delivery are all there, but there are notes you'd like to change, and others that need to be fixed, you need perfect pitch transformation. You need precision real-time editing capabilities. Waves Tune LT comes with full Re-Wire support, formant correction, and a palette of pitch shaping tools, all within your DAW environment - no need to export sections, or work offline.

Better sounding and more flexible than any other pitch correction processor, Waves Tune LT will get your vocals right on track!

(While stocks last. Requires iLok2  to authorise available from Sonic Distribution Ltd at £40 inc vat)

* For a full list of qualifying mics visit the sE website www.seelectronics.com



0 8 4 5 . 5 0 0 . 2 . 5 0 0
www.sonic-distribution.com

SONIC

Prolight + Sound Musikmesse 2011

Prolight + Sound Musikmesse 2011 attracted 75,221 visitors and 1,511 exhibitors from 55 countries. For four days, from April 6-9, 2011, the fair transformed Frankfurt am Main into the audio capital of the world.

"Prolight + Sound Musikmesse was a complete success for our members from the fields of production, sales, trade, and media," commented Jochen Stock, Chairman of the Board of the Society of Music Merchants. "The mood throughout the sector is good, and this is confirmed by our sales figures."

There were a vast array of exciting new products from pro-audio manufacturers, a selection of which are presented here.

AMS Neve showed its 1073LBEQ 500 Series Mono Equalizer Module. It is the second 500-series format module AMS Neve has built in the image of the company's 1073 Classic module, following the debut of the 1073LB mic pre at AES 2010.



AMS Neve
1073.

The 1073LBEQ retains the sonic characteristics of the classic module by using the same architecture, matching components, and legendary three-band EQ design. New features include a signal presence LED and Neve's Audio Processing Insert design.

www.ams-neve.com

Apogee's Duet 2 is an updated version of the company's USB audio

interface. The new version adds a full colour OLED display and assignable touchpads. The unit features two combination line/mic inputs, two balanced line outputs, and one quarter-inch stereo headphone output. Two microphone pre-amps provide up to 75dB of gain.

www.apogeedigital.com

Audinate's Dante digital networking solution had a notable presence at the show. In addition to its integration with product launches by manufacturers such as Allen & Heath, DiGiCo, and Four Audio, Dante played a major role in the project that won this year's Systems Integration Award. The award was presented to Hartman+Mathias Partnership at Prolight+Sound for equipping Frankfurt am Main's Goethe University. It was the first project in Germany to use Audinate's Dante solution as the audio network.

www.audinate.com

Avid exhibited with Sibelius and Pro Tools 9. Also on show were the M-Audio Venom synthesizer, and the Eleven Rack Expansion Pack. The Eleven Rack Expansion Pack is a software add-on for the guitar recording and effects processing system with additional guitar amp and effects emulations and the ability to turn Eleven Rack into a bass rig and vocal studio.

www.avid.com

Virtual instrument and sample library distributor Best Service presented five new packages. World Percussion, Forest Kingdom, Klanghaus, ElectraX, and Kraftworker will be distributed worldwide by Best Service. All

products are currently shipping.

www.bestservicede.com

BSS Audio introduced control and monitoring for additional Crown amplifiers with the release of HiQnet London Architect v3.06. The updated configuration, control, and monitoring software for the Soundweb London family of networked signal processors now provides control and monitoring for Crown CTs 4200/8200, Macro-Tech i, and CTs amplifiers with a USP4-CN PIP Module.

www.bss.co.uk

CharterOak was showing its new MPA-1 microphone pre-amp. The MPA-1 is a solid-state, dual channel microphone pre-amp with transformerless input circuitry and transformer balanced output. Input and output gain controls manipulate the signal from transparent to pleasant colouration.

www.charteroakacoustics.com

DPA Microphones showed its new modular series of microphones at ProLight + Sound 2011. According to DAPA, the reference standard microphones "take DPA's Standard and Compact ranges a step further. The range offers increased flexibility, sound quality, and cost-effec-

tiveness." The range includes the Reference Standard 4000 Series, which builds on the Standard and Compact 4006, 4011, 4015, and 4017 mics, and the pioneering new twin diaphragm capsules that form the 2000 series.

www.dpamicrophones.com

IOSONO presented its new Spatial Audio Workstation with Upmix technology. In the workstation's single display, all tracks and events occur as sound objects, providing convenient positioning and movement of audio. Upmix recovers surround sound from stereo material, which can then be manually fine-tuned.

www.iosono-sound.com

Loudspeaker designer **On Point Audio** introduced the OPA-28 NP, a high-output dual eight-inch coaxial speaker system. The system features coaxially mounted 1.35-inch titanium compression drivers, contributing to the enclosure's slim profile, the outside width of which is only 7.3-inches.

www.onpointaudio.com

Two Notes audio engineering expanded its Torpedo range with the addition of the PI-101 speaker simulator and

DPA Modular Series





ADAM Audio A77X

► LB-202 dual channel loadbox and attenuator. Two Notes' Torpedo technology uses several measurements of a real cabinet and microphone set-up to accurately reproduce the system and the microphone position.

www.two-notes.com

ADAM Audio launched a new AX monitor at Prolight + Sound. The A77X features the company's X-ART tweeter, new woofers and amplifiers, and re-designed speaker cabinets. The two seven-inch woofers feature large 1.5-inch voice coils and powerful amplifiers, capable of high sound pressure levels and very deep registers. One of the woofers covers bass frequencies up to 400Hz, while the other takes over most of the mid-range.

www.adam-audio.com

AKG launched two new products; the BBB DFive Beatbox microphone and the C544 L Headset microphone. The BBB DFive is a version of the D5 that has been adapted for beatboxing. It has a more effective internal wind-screen to prevent unwanted plosive sounds without altering the natural sound of the microphone. The C544 is designed for sporting applications, presentations, or live vocals. A cheek pad keeps the mic in place if the user's head is turned abruptly.

www.ake.com

Alcons Audio presented a collection of new products at Prolight+Sound. The production versions of the LR24 three-way mid-size line-array and LB24 line-array bass are designed specifically for the concert touring and large-scale installation markets. The BC543 is a brand new cardioid sub-bass loudspeaker and features an industry first, three state-of-the-art 18-inch, long-excursion woofers, with all-carbon fibre cone and dust cap. The new 'engine' behind every Alcons system, the Sentinel ALC is a powerful four channel DSP-

based controller with full Class D amplifier stages.

www.alconsaudio.com

Allen+Heath exhibited its iLive digital mixing system fitted with the new Dante audio interface card, providing up to 64x64 bi-directional audio channels. It demonstrated iLive working with other Dante-enabled equipment, as well as virtual soundcard recording. Also on display was a new

Audio Technica unveiled a host of new products at Prolight+Sound. Among them were two new broadcast microphones, an X/Y stereo condenser microphone, and a condenser microphone.

The BP4001 (cardioid) and BP4002 (omnidirectional) dynamic microphones are designed for broadcast interview and remote newsgathering situations.

The AT2022 features two unidirectional condenser capsules in an X/Y configuration to allow for narrow or wide stereo operation. It is designed for field sound and general stereo recording.

The AT2031 cardioid condenser end-address microphone is ideal for stringed instruments in critical recording and live situations.

www.audio-technica.com

iLive MixPad app, for remote control of essential live mixing functions.

Also on show was the new GS-R24, an affordable, yet high quality analogue console with motorised faders, MIDI controllers, and a selection of interface modules.

www.allen-heath.com

APG expanded its UNILINE compact line array system at Prolight+Sound, with the launch of the UL210D cabinet. The UL210D is a dedicated downfill speaker for the UNILINE system, providing extended downwards coverage when placed at the bottom of a hang of UL210s. Also on show was the SB115, a compact subwoofer that replaces the SUB 138P.

www.apg.tm.fr

Audient launched the Dual Layer Control module for its ASP8024 console. The DLC module gives users total control of the computer session, plus eight channels of analogue moving fader automation.

Also introduced at the show was Audient's FaderLink software.

The software provides plug-in control of Audient automated consoles – Zen, ASP8024-DLC and ASP2802, and opens up Audient's analogue automation to all DAW packages supporting standard plug-in formats.

www.audient.com

Aviom showcased its personal mixers at the show. "We are very proud that Aviom's Personal Mixers have become the tried and true choice within the audio industry," commented Aviom President and Co-Founder, Carl Bader. "The A-161Is have been used by everyone from world-class artists to the newest generation of audio professionals."

www.aviom.com

Blue Microphones showcased two new studio microphones and a new desktop USB microphone. Reactor is a multi-pattern microphone with a swivelling capsule head. It features Blue's premium condenser capsules, fully discreet Class A solid state components, and proprietary pre-amp for noiseless live switching between patterns. Also on show was YetiPro, the first USB microphone to combine 24-bit/192kHz digital recording resolution with an analogue XLR output.

www.bluemicro.com

Beyerdynamic launched Touring Gear, a complete range of live microphones. The Touring Gear series features vocal, headset, lavalier, drum, and instrument microphones, all of which benefit from Beyerdynamic's new Sound Channelling Technology, which uses precisely tuned delay lines and attenuation pads to influence model the sound and polar pattern. The series is split into four categories, ranging from the entry level TG30 range to the flagship TG90 range. "Our goal was to retain the best elements from our existing models and combine these with the latest technology and materials," commented Mario Gebhardt, Audio Products Development Manager.

www.beyerdynamic.com

Crown Audio introduced its XTi 2 amplifier series. The XTi 2 features enhanced control with Crown's proprietary PeakX Plus limiters. The limiters are derived from the same framework as those found in I-Tech HD and the new XLS DriveCore Series amplifiers, allowing users to manipulate threshold, attack, and release times. A new and improved subharmonic synthesizer offers more accurate control over which frequencies are targeted and can be tailored for a specific system or room set-up.

www.harman.net

DiGiCo announced the adoption of Audinate's Dante digital networking solution and the launch of two new Dante implemented products. The first is an eight-channel I/O module for the SD-Rack that allows users to drop audio on and off a Dante network for connection to system control, amplifiers, and general audio networks. The second is the Dante DiGiCo Multi-channel Interface card. The Dante DMI card can be added to either a D-Rack or SD-Rack and allows the user to connect the I/O rack, via CAT5, to a standard PC or MAC.

Also on show was DiGiCo's new Remote Record Interface, a remote recording solution for all applications in native Mac or PC formats.

www.digico.biz

d&b audiotechnik showcased its White range of integration loudspeakers, which were launched at ISE earlier in the year. Also on

► show was a selection of d&b's established Black range.
www.dbaudio.com

Dark Matter Audio launched the DMA1, a touch screen audio hub. The DMA1 is the medium for a planned range of audio apps such as guitar effects processors and digital patchbays.
www.darkmatteraudio.com

EM Acoustics introduced the X3 horn loaded PA system, the companion to the company's Quake subwoofer. The system comprises a horn-loaded 15-inch LF drive unit, a horn-loaded eight-inch MF drive unit, and six one-inch compression drivers on a bespoke waveguide, creating a horizontal line source that allows multiple X3 enclosures to form arrays.
www.emacoustics.co.uk



Genelec 1238CF.

L-Acoustics showcased version 1.8 of its SoundVision 3D Simulation software. The new version features an updated data product library that includes the new architectural series.
www.l-acoustics.com

RME presented a new Remote Control for its Fireface UFX and ADI-8 QS audio interfaces, as well as a special edition version of its babyface interface.
www.rme-audio.de

EAW displayed the latest additions to its KF, QX, and JF Series. Amongst the products on display were the latest ten additions to the JF Series of high-definition two-way loudspeaker systems, four of which are integrated NT models. The new JF and JFNT models are

scalable, compact loudspeakers designed for small and medium-sized sound reinforcement applications.

www.eaw.com

Focusrite introduced RedNet 5, the latest addition to its RedNet family of networked audio interfaces. RedNet 5 connects to a Pro Tools HD system via DigiLink, making use of the low-latency performance of Pro Tools HD cards alongside RedNet's audio interfaces to configure a flexible mixing system.
www.focusrite.com

Genelec presented a new addition to its DSP range of monitors. The 1238CF is a three-way monitor with digital signal processing and AutoCal calibration. It is also compatible with Genelec Loudspeaker Manager control software and can be combined with 8200/7200 Series products in the same control network.
www.genelec.com

HARMAN Professional introduced HiQnet Performance Manager software, a user interface for the design of sound reinforcement systems. The system is based on HARMAN's HiQnet System Architect 2 connectivity and control software. It is fully integrated with JBL's Line Array Calculator II configuration and modelling software.
www.harmanpro.com

HK Audio's Elements line of modular sound reinforcement won an award for Best Portable Sound at the 12th annual Musikmesse International Press Award Ceremony. The Elements line consists of six highly portable components.
www.hkaudio.com

Innovason unveiled the latest incarnation of its Eclipse digital mixing console, the Eclipse GT. The GT model adds some aesthetic touches such as red LEDs in the side-cheeks and higher quality knobs and faders. It has also been given Innovason's signature red trackball and a side-rail to make the console easier to manoeuvre.
www.innovason.com

JBL Professional presented its EON515XT active loudspeaker. The powered portable speaker is a direct replacement for the EON515. The new model offers increased input sensitivity, a lower

KRK Systems introduced a new mid-field three-way monitor system. The ROKIT RP10-3 is designed to deliver full range professional performance in a mid-field monitor package. A rotatable tweeter/mid-range speaker mount plate ensures accurate acoustic alignment for vertical and horizontal installation.

Also on show were two new powered subwoofers, the KRK125HO and KRK125. The KRK125HO delivers an intense focused bass response for demanding high-level applications, while the KRK125 is a workhorse subwoofer for music production where a precise representation of the bass frequency spectrum is a necessity.
www.krksys.com

noise floor, and user selectable EQ. The entire system has been optimised for peak performance and enhanced audio precision. Also on show was the EON210P, a complete portable PA system.
www.jblpro.com

Austrian microphone manufacturer **Lewitt GmbH** displayed its full range of wireless, recording, and performance microphones. Amongst those on display were the company's flagship LCT 640 and DTP 640 REX models. The LCT640 is a large-diaphragm condenser microphone for studio recording. The DTP 640 REX is a dual-element cardioid microphone, optimised for kick drum applications. It combines a high-performance back-electret and a dynamic capsule in a single mic to capture punch and attack as well as the round tonal response of the drum's shell.
www.lewitt-audio.com

Line 6 showcased its new XD-V digital wireless microphone systems. Unlike conventional core TV band UHF wireless systems, XD-V systems operate in the 2.4 GHz band, permitting worldwide license-free operation and avoiding interference.
www.line6.com

Mackie presented a complete redesign of its MR8 line of powered studio monitors. The mk2 monitors feature all-new professional transducers specifically designed to match their respective amplification. The new models employ a 1-inch neodymium magnet-driven soft dome tweeter featuring ferro-fluid cooling to

help protect against power compression during dynamic playback. Two new Onyx recording interfaces were on display, the Onyx Blackjack and Onyx Blackbird combine Onyx mic pre-amps with Cirrus Logic AD/DA converters. Also on show were two new VLZ3 mid-format live analogue consoles, each with dual internal effects processors, dedicated compression, and four-track recording via USB.
www.mackie.com

Martin Audio's Multi-cellular loudspeaker array scooped this year's Musikmesse International Press Award for Best PA System. Held for the 12th year running, the award was voted for by more than 100 magazines worldwide and presented to Managing Director, Anthony Taylor and R&D Director, Jason Baird. "To be recognised by the world's press, the harshest critics of all, underpins the faith that we and our customers have in this incredible game-changing system," commented Baird. The award was one of 40 recognised by the panel.
www.martin-audio.com

Mayah unveiled five new MADI products for recording, stage, and broadcast sound.
"With our MADI products family we ►

JBL EON210P

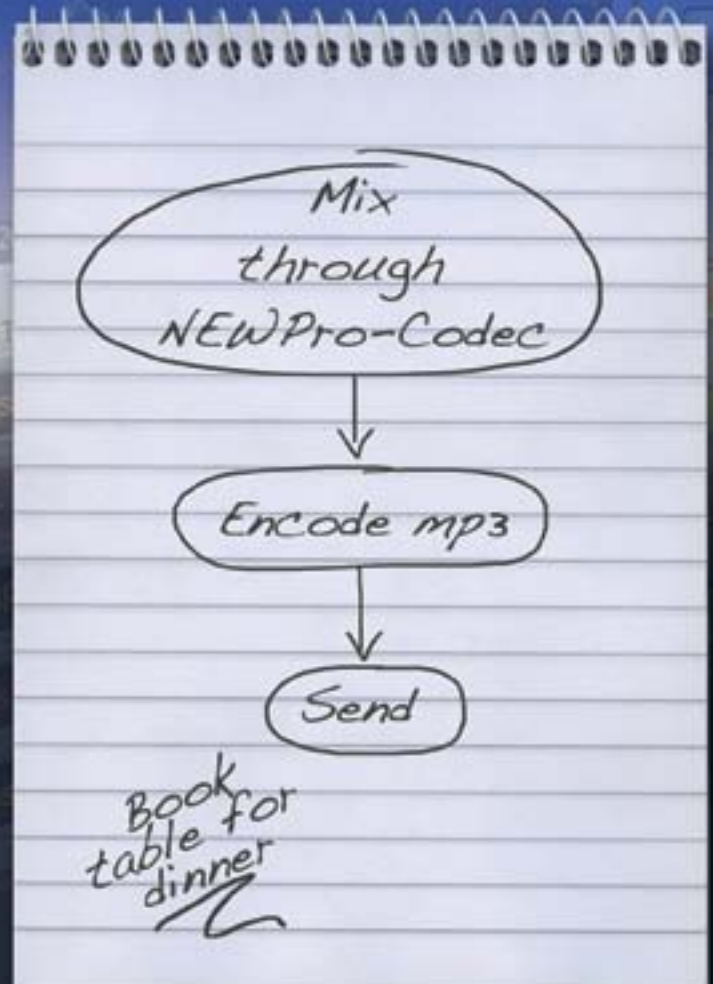


Audio Encoding Changed for Good

Old way to encode audio



New way to encode audio



Real Time Codec Auditioning

The Sonnox Fraunhofer Pro-Codec makes it possible, for the first time, to audition and encode to multiple formats in real time within a DAW environment. Maximum fidelity is assured, as the Pro-Codec helps create compensated mixes optimized towards specific target codecs for final coding and online distribution.

- All major codecs supported: mp3, AAC, lossless codecs etc.
- Comprehensive auditioning with glitchless switching
- AB and ABX mode for blind statistical testing
- High resolution display and extensive metering
- Real time encoding, plus offline encoding and decoding



► can emphasise our position in the market of studios and live events, commented CEO Detlef Wiese. "We strongly believe that MADI will be applied more and more without getting in conflict with the Audio-over-IP technology."

www.mayah.com

Meyer Sound presented the D-Mitri digital audio platform and Constellation acoustic system. Constellation is a breakthrough in flexible acoustics that enhances the live performance experience for both musicians and audiences. By harnessing Meyer Sound's patented algorithm, advanced digital processing, and miniature transducer technology, Constellation can be used to replicate acoustical environments with the aural qualities of the world's best rooms. It enables venues to adapt their acoustics for each kind of performance they host.

www.meyersound.com

Neumann launched an active studio subwoofer. The KH810 has been released in the wake of the



Roland Systems Group unveiled its new flagship digital console, the M-480. Like the M-400, 380, and 300, the new console functions as a central unit in a full V-Mixing System. It has received a powerful new mixing engine and can be integrated with Roland's Digital Snakes, Personal Mixing and Multi-Channel Recording solutions. The M-480 V-Mixer features 48 channels, six stereo returns, and an expanded EQ. It also has a total of 27 busses, with 16 auxiliaries, eight matrices, and full support for mono, stereo, or LCR sound design. With the addition of digital I/O boxes, the console can support up to 90 inputs and 90 outputs.

Also on show from Roland was the R-100, a 48-track recorder/player for live audio and sound-checks. The stand-alone unit is designed to work with a V-Mixing system and can be connected with any digital console that has MADI output by using the Roland S-MADI REAC MADI Bridge.

www.rolandsystemsgroup.com

matching KH120 two-way active near-field monitor. The KH810 can either be used as a subwoofer dedicated to reproducing the LFE channel, or to provide low frequency extension with an increased maximum SPL.

www.neumann.com

Following **Optocore's** strategic partnership with Clear-Com, two new network converters have been developed to enable Clear-Com systems to uniquely operate on Optocore's digital fiber and CAT5 networks. The V3R-FX-Intercom for Clear-Com is a four I/O channel intercom unit, while the X6R-FX-Intercom for Clear-Com is an eight I/O channel intercom unit.

www.optocore.com

PreSonus showcased its new StudioLive 16.0.2 digital recording and performance mixer. The compact 16-channel mixer is targeted at small bands and personal studios. It offers the same audio quality as the two larger StudioLive models, with high-headroom, 32-bit floating-point processing and XMAX



first
impressions

First Impressions from Audio-Technica, is the new way to find your perfect Audio-Technica product. In the studio, at home or on the road, sign up and you'll have your very own **2 Week Soundcheck**, where we send you up to two Audio-Technica products to test out on your own terms for up to two weeks.

For more information, log onto:

www.audio-technica.com/firstimpressions

 **audio-technica.**
always listening



The number one choice of professionals.

For more than 30 years Genelec has pioneered groundbreaking solutions in active monitoring. Genelec brand stands for accuracy, exceptional reliability and consistency. The all-aluminum 8000 Series represents the core of the experience. It has become the gold standard for audio professionals around the world. Regardless of size, each Genelec monitor is handcrafted and individually calibrated to perfection in Finland. Just listen to hear the difference.

GET PROFESSIONAL. WWW.GENELEC.COM/8000

- ▶ pre-amps. It also has MIDI input and output, providing MIDI control over key mixer parameters. Using an external MIDI controller or MIDI messages transmitted over FireWire by computer, users can control the main output level and effects output levels, recall effects pre-sets, assign effects to the main bus, and recall global mixer Scenes.

www.presonus.com

Proel presented the latest addition to its Flash series of compact loudspeakers. Flash 5 is the most compact model in the series. Active and passive models are available. It features a 100 W Class D bi-amplification module and a precision-designed crossover filter. Flash 5 is designed for short and mid-range applications, such as for use with a PC, or as a stage monitor.

www.proel.com

Soundcraft expanded its Si Compact range with the release of the Si Compact 32. The new mixer is capable of delivering 40 inputs to mix, while maintaining the DSP functionality of its predecessors. The Si Compact features 14 main busses, four matrix buses, four dedicated FX buses, four full-time Lexicon effects engines, and a range of option cards to interface with other systems. Like other Si Compact models, it can connect via MADI to the new Compact Stagebox.

Also on offer from Soundcraft was VM2, a new product developed alongside AKG to enable wireless mic monitoring in the mixer. It monitors the status of any HARMAN HiQnet compatible AKG radio mic, directly from the surface of a Soundcraft Vi Series console.

www.soundcraft.com



FM-4 : FM-3 : FM-1 Portable Location Mixers & Preamp

Robust, high specification, professionally engineered portable mixers, (and new FM-1 mic preamp), specifically designed for location film & TV production, electronic field production and ENG applications.



A high quality mic preamp with powerful microphone gain limiter. Compact, rugged and simple to use.



FOSTEX

3-2-35 Musashino, Akishima, Tokyo, Japan 196-0021 Email: info_sales@fostex.jp www.fostex.com

Radial Engineering displayed the new Q3 module, a three-band induction coil EQ designed to fit 500 series racks such as the Radial Workhorse. It features four easy to use controls; a top end boost circuit, a mid-range cut circuit, a bass boost circuit, and a gain make-up control to offset the typical signal loss that occurs when using passive EQ designs.

www.radialeng.com

Renkus-Heinz unveiled a new medium format loudspeaker system. The IC is a powerful, digitally steerable system for theatre and club installations. Also on display were the expanding IC Live family of digitally steerable array loudspeakers, and the new CF/CFX101-LA Modular Point Source Array, a solution for small and mid-sized venues.

www.renkus-heinz.com

Rupert Neve Designs showed its full range of Portico and Portico II series modules, the new Portico II Stereo Buss Processor, and the 5088 Fully Discrete Mixer. The Portico II Stereo Buss Processor is a stereo compressor and mastering limiter with high-voltage discrete signal paths and a new stereo field editor design with band-filtered width and depth.

www.rupertneve.com

SE Electronics presented the finalised version of its Egg loudspeaker. Its egg-shaped enclosure is intended to minimise distortion by creating a near perfectly neutral chassis. The crossovers are fully active and have been digitally modelled and matched to give near perfect phase and transient response. The result is a fast acting, accurate speaker.

www.seelelectronics.com

Sennheiser showcased its newly developed evolution wireless ew100 G3-iG8 series microphone systems. They are the first wireless systems to transmit signals in the 1800 MHz frequency band, which has been approved in several European countries for wireless audio transmission. Also on show was the company's first side-address large-diaphragm microphone, the MK 4. The MK 4 is a cardioid true



Nic Fanciulli



Freemasons



Pete Tong



Deadmau5



Joshua Blair and Mark Ronson
(Sphere Studios)

The only interface for the job

ORPHEUS Professional FireWire audio interface



When looking for a high quality I/O solution there is only one choice.

Orpheus provides Prism Sound's world renowned performance, sound quality and state-of-the-art clock technology in a dedicated FireWire unit compatible with both Windows and MAC OS X.

Orpheus features line, microphone and instrument inputs, selectable RIAA Equalization for turntables, a built-in premium-quality monitoring mixer and concurrent ADAT and switchable S/PDIF or AES3 digital I/O plus support for outboard MIDI devices. The Microphone inputs include MS matrix processing and dual headphone outputs are provided each with their own volume control.

Contact us now to arrange *YOUR* Orpheus demo.

sales@prismsound.com www.prismsound.com
UK +44 (0)1353 648888 USA +1 973 983 9577



- condenser microphone, developed for professional users in project studios.

www.sennheiser.co.uk

Shure introduced Axient, a wireless management network that can automatically change frequencies

to avoid interference. Also on show was the PSM 1000 In-Ear Personal Monitoring System, with twice the RF bandwidth of the PSM 900. Shure also introduced a variety of products for ENG and broadcast applications: the UR5 and UR3 portable wireless solutions, VP68 omnidirectional microphone capsule, and VP89 and VP82 shotgun microphones.

www.shure.co.uk

Studiomaster presented the StudiomaSter DIGILIVE 24, the company's first digital console, and a co-development with Somix Audio Labs. DIGILIVE 24 was designed primarily as a live mixing console, but an optional Firewire interface provides recording and production capabilities. Rackmount expander modules provide for exten-

Shure PSM 1000 EM.



sion of the 24-channel mixer up to a 40-channel mix system with one module and 56 channels with two modules.

www.studiomaster.com

Sonnox presented a mastering solution for online distribution, developed alongside Fraunhofer IIS. The new Sonnox Fraunhofer Pro-Codec plug-in makes it possible to precisely audition codecs in real time, saving time that would otherwise be spent re-rendering.

www.sonnoxplugins.com

Sonodyne launched the SM 300A, a three-way compact active mid-field monitor that follows in the footsteps of the SM 50Ak and SM

200Ak. The SM 300A is designed to deliver detailed sound at high db levels and over a large frequency bandwidth for professional studios.

www.sonodyne.com

SPL introduced the NEOS mixer, based on the company's 120 V technology. NEOS is designed for mixing and monitoring applications in computer-based environments. The compact 7U 19-inch mixer includes 12 stereo buses for 24 channels, and a master bus. Every stereo bus can be switched to mono, and the master bus features a complete monitoring section. It can be used to mix stereo stems and specific mono channels in analogue, after computer editing.

www.spl.info



Sennheiser MK4.

Call 01792 702 701 to arrange a trial
www.rolandsystemsgroup.co.uk

THE NEW M-480 V-MIXER FROM ROLAND

Introducing a 60-channel console built around a world-class mixing engine. The M-480 combines power and flexibility with a simple, intuitive user interface. And for anyone in the hire or rentals business, you'll get a better return as it's a lot more affordable than you'd imagine.

SELECTED SYSTEM SPECIFICATIONS

- > INPUT: 48 channels + 6 stereo returns
- > BUS: L/C/R, 16 AUX buses, 8 matrix buses
- > Channel input delay: 60 Channels
- > Full 4-band PEQ / 48 Gates, 48 compressors and limiters on outputs
- > Output delay: 27 (all output buses)
- > Effects and GEQ: six stereo effects, twelve GEQ processors
- > CASCADE: connect two or more M-480 consoles

REAC

ROLAND'S CORE ETHERNET-BASED TECHNOLOGY ENABLING THE RAPID, EFFICIENT TRANSFER OF PRISTINE DIGITAL AUDIO



S-4000 SERIES
DIGITAL SNAKE



S-1608
STAGE UNIT



S-0808
8X8 I/O UNIT



S-4000M
REAC MERGE UNIT



S-MADI REAC BRIDGE
S-4000D SPLITTER



M-48
PERSONAL MONITOR

Roland
Systems Group

► **SSL** launched the X-Panda, a 24-channel SuperAnalogue mixer. X-Panda is a small format analogue mixer aimed at project studio owners. It provides eight mono channels, each of which have Main and Alt inputs, and four stereo channels, giving a total of 24 channels at mix down. Alongside an SSL X-Desk, X-Panda introduces 24 additional channels, which feed directly into the X-Desk Master Buss, Cue, and Aux Send/Return system via the X-Desk Link connection. X-Panda can also be used with any other mixer to expand the channel count.

www.solid-state-logic.com

Steinberg presented its new HALion 4 software. The VST instrument offers a fully integrated sound design environment that combines sampling, synthesizer, mixing and an array of effects. It comes with 44 effects such as the REVerence convolution reverb, in addition to a vast sound library of over 1,600 sounds. Steinberg also introduced the Yamaha Vintage plug-in collection. The new collection is made up of Vintage Channel Strip, Vintage Open Deck, and Vintage Stomp Pack, all of which have previously only been available as VCM add-on effects for high-end Yamaha digital mixers. The Yamaha Vintage collection is available in VST 3, VST 2.4, and AU plug-in formats for multi-instance use within digital audio workstations.

www.steinberg.net

Tannoy showcased its VX and VXP Series of loudspeakers. The passive VX Series combines install-friendly cabinet designs with proprietary Dual Concentric driver technology. Dual Concentric drivers combine the high and low-frequency driver to create a single true point source, thereby improving off-axis performance. The self-powered VXP Series also integrates Lab Gruppen amplification.

www.tannoy.com

Telefunken Elektroakustik introduced the CU-29 Copperhead, a condenser mic with a vintage New Old Stock tube. The new microphone exhibits similar characteristics to those in its R-F-T series counterparts, the AR-51 and the AK-47 MkII.

Telefunken also introduced the M80-WH, a wireless microphone capsule head that was originally developed for Green Day. It is sonically open with a directional pickup pattern and wide frequency response.

www.telefunken.com

TTA demonstrated its Stagetracker system, a theatre audio solution that tracks the position of a performer on stage and applies the information to the microphone in real time. Mounted above the stage, the Stagetracker RadioEye receives information from up to 32 matchbox-sized radio transmitters worn by each performer. With the option of Zone mode or Pan Between Points, and TTA's SmoothMove algorithm, the audience experiences the voice of a performer accurately originating from their location on stage. The Stagetracker Cue has also been introduced to Figure53's Qlab package, enabling sound effects to be intuitively flown around the auditorium.

www.tta-sound.com

Universal Audio released the Brainworx bx_digital V2 EQ plug-in and the SPL Vitalizer MK2-T plug-in. They are the first Direct Developer plug-ins for the UAD-2 Powered Plug-Ins Platform. The SPL Vitalizer MK2-T is an emulation of the tube-based Vitalizer hardware unit. It provides independent bass and mid-hi processing that works in both time and frequency domains to unmask overlapping sounds.

www.uaudio.com

Yorkville introduced a new line of active studio monitors. The YSM Series powered monitors are designed for home and project studios. Front facing ports avoid bass coupling with back walls and corners. Also on show was the new PX Series of high-powered amplifiers.

www.yorkville.com

FOR REAL PRO AUDIO

api
anthony demaria labs
apogee
apple
avid
barefoot
brauner
coleman
crane song
dav electronics
dramatic audio
fmr
jdk
lavry
lynx
neve
peluso
pmc
prism
roll music
shadow hills
shinybox
soundfield
soundman
towersonic

TALK TO US

KMR are Europe's leading supplier of high-end recording equipment. We stock a huge range of audiophile gear, available to audition in either our North London demo rooms or the comfort of your own studio. If you like your supplier to know one end of a Lundahl transformer from a T4 opto-compressor, our highly experienced staff will help you choose the best equipment for your needs. Combining a passion for great recording kit with good old-fashioned service and competitive pricing, we look forward to hearing from you.

KMR AUDIO

email • sales@kmraudio.com web • www.kmraudio.com
kmr audio, 1375 high road, whetstone, london N20 9LN

☎ 020 8445 2446

STUDIO NEWS



West London recording facility Kore Studios has upgraded its equipment to include a Prism Sound Orpheus FireWire computer interface. Studio owner George Apson explained that the Prism Sound unit was bought to function as a mobile interface to be used with Pro Tools 9 on a laptop and as a two-track machine for printing high resolution stems and mixes for mastering.

www.prismsound.com

SE POP SHIELD OFFER

SE Electronics is giving away a free Metal Pop Shield worth £59 with every purchase of an sEX1, sE4400a, T2, sE2200T, Z5600a II, Gemini II, G3500, Gemini 5, or Voodoo mics VR1 and VR2. The pop shield's metal screen is perforated and louvered at a slight angle to redirect ultra-low frequency breath blasts, which are pushed past the side of the screen.

www.seelectronics.com



Native Instruments Completes New Interface

Native Instruments' Complete Audio 6 is now available. Complete Audio 6 is a high-performance six-channel audio interface for studio and live use. With four balanced analogue inputs and outputs, complemented by a digital S/PDIF stereo I/O and an integrated MIDI interface, the unit can be used as the centrepiece of a wide range of set-ups. Thanks to 24-bit/96kHz Cirrus Logic converters and powerful +11dBu analogue output stages, Complete Audio 6 delivers pristine audio quality. Revised Mac OS X and Windows audio drivers also enable robust low-latency performance.

The unit features dual microphone pre-amps with XLR connectors and phantom power, individually switchable hi-Z inputs for electric guitar and bass, assignable headphone section, and a flexible zero-latency direct monitoring function with mono switch.

www.native-instruments.com



Olympus Launches LS-20

Olympus has launched the LS-20, a Linear PCM digital recorder that captures high quality audio and HD video. The LS-20 is designed to function as a mobile studio for musicians, journalists, and podcasters. It records to an SD card in WAV, MP3, and WMA formats at up to 24-bit/96kHz. The line in socket enables the use of an external microphone or mixing desk.

The LS-20 can capture audio at a distance thanks to adjustable microphone sensitivity, manual/auto recording level, noise cancellation, and high sensitivity. Its camera also has a 4x digital zoom, reverse angle recording, and image stabilisation that delivers clear images recorded at a distance. It is capable of capturing to Internet-friendly formats, and can be used directly as a webcam.

www.olympus.co.uk



NEW PRODUCT

Smart Sound demonstrated QuickTracks at NAB. The new released cloud-based music customisation service provides scoring for video and broadcast production.

www.smartsound.com

STUDIO NEWS



Coldplay bass player Guy Berryman recently built a private studio. The development included two 16-channel TG Mixer's, two Zener Mastering Compressors from Chandler Limited.

www.chandlerlimited.com

NEW DISTRIBUTION

West London-based MSL Professional has been appointed as the exclusive distributor of TL Audio products in the UK and Ireland. MSL Professional opened for business in April this year.

www.mslprofessional.co.uk

FACILITY UPGRADE

UK-based audio manufacturer and studio design and installation company DACS has completed work on the extensive new music recording facilities at the Kings Cross Centre, part of London's Westminster Kingsway College.

www.dacs-audio.com

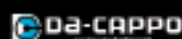


Micro Microphones – Macro Performance

Da-Cappo Micro Microphones – now available exclusively in the UK from Orbital Sound:

- smallest in class, highest quality European-engineered capsule
- unparalleled resistance to sweat and water
- compatible with all major radio microphone systems

Reduce premature microphone failure due to sweat and damp!



VOTED BEST SOUND PRODUCT OF THE YEAR – ABTT 2010



www.orbitalsound.com
+44 20 7501 6868

Sound hire

Audio sales

Sound design

Event comms

NEW PRODUCT



Sound Devices introduced its new MixPre-D at this year's NAB. The new portable mixer is intended for recording documentary-style, sports, news magazine, and corporate-industrial productions.

www.sounddevices.com

NEW PRODUCT

Humatic has released TouchDAW, the first Android app that enables users to remotely control their



DAW. TouchDAW is compatible with most major DAWs, including ProTools, Logic, Ableton Live, and Cakewalk Sonar.

www.humatic.de

STUDIO NEWS



Producer/engineer Richard X has purchased a new U47 large diaphragm microphone from Telefunken Elektroakustik for use on a new album with Will Young.

www.telefunken.com

AES TALK

The Music Producers Guild will present a panel discussion at the London AES Show focusing on the emerging challenges for artists, small labels, and producers dealing direct with manufacture. The discussion will run from 11.15am to 1pm on Saturday May 14.

www.aes.org

Lynx Says Hello to Hilo

Lynx Studio Technology has introduced Hilo, an A/D converter, D/A converter and headphone amplifier. Hilo is a two-channel converter with 12 inputs and 16 outputs. It provides two channels of mastering quality analogue to digital conversion, up to eight channels of digital to analogue conversion, a secondary monitor output, and a high quality independent headphone amplifier in a compact half-rack unit.

A touch screen is used for the selection of all parameters and metering of inputs and outputs. The LCD offers a choice of bar or VU style meters and diagnostic screens such as a real time analyser or phase meter. Hilo's FPGA based design can be updated, meaning that its features will evolve over time. At the moment, Hilo's front panel controls support extensive signal routing and mixing, sample rate selection, clock source options, levels, metering, and diagnostic features.

www.lynxstudio.com



Obituary: Ken Barnsley

It is with great sadness that we announce the death of Ken Barnsley, who passed away on April 26, 2011, after losing his fight against cancer.

For over 25 years, Ken led sales and marketing efforts for some of the biggest companies in the music, broadcast, film, and post production markets, including AMS-Neve, Solid State Logic, Avid UK, and Amek. Ken joined Fairlight in 2008 as European Operations Director after eight years as Head of Sales and Marketing for Merging Technologies.

In recent years Ken discovered a passion for horses, taking part in many equestrian events both as a participant and as an organiser. He acted as Vice Chair of the Lusitano Breed Society of Great Britain until ill health forced him to retire earlier this year.

Ken produced music that helped Britain to achieve several medals at the 2008 Beijing Paralympics and the 2010 Kentucky World Equestrian Games. It is indicative of his devotion that he delayed his chemotherapy in 2010 in order to speak at the British Dressage Judges Convention.

He leaves behind his partner of sixteen years, Laura Duncalf, and a daughter, Diane, who is expecting Ken's first grandchildren.

Ken asked that anyone wishing to make a gesture donate to The Gambia Horse and Donkey Trust.

www.gambiahorseanddonkey.org.uk



SUBSCRIBER PRIZE DRAW

Congratulations to Four4 Audio Design's Ian Campbell, who is this month's lucky winner of the Audio

Media subscribers' prize draw.

Each month throughout 2011, one randomly selected subscriber will win an sE 4400a microphone.

To be entered into the draw, you must have a current digital or print subscription. To get one, go online to the address below. Good luck!

www.audiomedia.com/subscribe.html



ROWLANDS HAS CHEMISTRY WITH DUALITY



Chemical Brothers member Tom Rowlands is using a newly installed 48-channel Solid State Logic Duality console in his private studio, Rowlands Audio Research. Duality will provide the signal routing, channel count, and DAW integration needed by The Chemical Brothers for new projects. "Duality gives us what we had with the AWS, while delivering the added channel count we needed to move forward in our work," commented Rowlands.

www.solid-state-logic.com

NEW PRODUCT



Dolby has launched Media Emulator – soundtrack optimisation software aimed at aiding the production of broadcaster-spec deliverables by enabling operators to easily monitor loudness. For use in the major DAWs, Media Emulator should provide easy monitoring of consumer formats and faster workflows.

www.dolby.co.uk

CONSOLE UPGRADE



An 'M2' upgrade for the Studer Vista 5 console has been announced, which incorporates the same precision TFT metering system introduced on the flagship Vista 9 console. The metering is capable of displaying signal levels from mono through to 5.1 channels on each input, with a configurable lower area for bus assignments, surround images, or the History mode.

www.studer.ch

SSL console enhancements

Solid State Logic had an incredibly busy NAB this year. First up is V4 software for the C100 HDS console, including duplex connectivity with Riedel RockNet, a new Loop Redundancy mode, and several surround production additions. Also for the C100, as well as the C10, SSL has launched C-Play – an embedded spot and music play-out system for the C10 and C100; the Alpha-Link Live-R console I/O unit that adds a set of redundant MADI fibre connections; and support for Mosart Medialab's Newscast Automation System. Also new was the SDI-MADI 4 x16 channel de-embedder (4 x SDI to 64ch MADI fibre and AES).

www.solidstatellogic.com



New MediorNet Speedster

Riedel communications used this year's NAB to launch MediorNet Compact – the newest member of the the MediorNet range. Billed by Riedel as 'the cost effective and easy-to-use entry into the Riedel MediorNet world of integrated media signal distribution and processing', its 50Gbit/s bandwidth provides enough capacity for bi-directional transport of 12 HD SDI signals, dozens of MADI streams, or hundreds of audio channels or intercom ports. I/O includes up to 12 3G/HD/SD-SDI signals, four AES ports, two MADI interfaces, four analogue audio I/Os (with mic pres), RockNet interface, plus more – including extensive data and sync connectivity.

www.riedel.net



NEW PRODUCTS

Minnetonka announced two new products at NAB: the AudioTools Loudness Control Server (ALCS), and a new version of AudioTools AWE. ALCS is an enterprise level software suite, while AWE is an automated digital asset processing system.

www.minnetonkaaudio.com



NEW PRODUCT

French broadcast audio specialist Sound4 released its new Voice AD three-band, six channel voice processor for live broadcast studios at NAB. It runs on the new SOUND4 PCI express card and includes advanced processing, network reset management, and has digital and analogue I/O.

www.sound4.biz



CONSOLE UPGRADE

Lawo has announced Extra Faders – a new surface layout for the mc²66 MKII production console. The new surface arrangement provides more faders and fewer buttons close to the console's armrest. It also brings enhanced capabilities to the Central Control section and improved surround sound mixing capabilities.

www.lawo.de

Work Faster. Sound Better.

From our integration of the project studio environment, through to our pioneering large-format studio consoles, SSL has defined the hybrid approach to modern production workflow where the very best classic SSL analogue console technology meets high-speed DAW control.

Advanced DAW Control :: High Speed MIDI Over Ethernet :: Transparent SSL Mic Pre's :: Classic SSL Analogue Processing :: Depth & Definition With SuperAnalogue™ Summing :: Studio & Artist Monitoring :: Streamlined Session Management



Nucleus.

In-the-box pro project studio

- DAW Controller
- USB Audio Interface
- SuperAnalogue™ Monitoring
- Bundled Duende Native Plug-ins

Hybrid workflow solutions. This is SSL.

NEW PRODUCTS

Jünger Audio launched two new Combo cards for its modular C8000 dynamic processing solution at NAB, incorporating its propriety LEVEL MAGIC algorithm for automated loudness control.

The C8586 is a dual combo board providing two SDI streams, each with four channels of audio.

The C8582 is an eight-channel analogue and DSP card that can handle four stereo pairs.

www.juenger-audio.com

NEW PARTNERS

Avid used NAB to announce the addition of new EUCON partners – the control protocol inherited by the company after its recent purchase of Euphonix. The Artist Color product can now be used to control the colour grading features of Assimilate Scratch, Image Systems Nucoda, and Pomfort Silverstack SET Edition.

www.avid.com

Low Cost IP Console

Axia showed the brand new Radius IP console at NAB this year – a compact networkable mixing desk with four stereo buses, eight faders, 16 audio I/O ports and a Gigabit-capable Ethernet switch, set to retail at just \$5,990. Axia claims it as the “world’s first IP console under \$6k.” Other features include auto mix-minus on every fader, talkback facilities, a built-in Ethernet switch, GPIO ports, snapshot recall, and I/O expansion options.

Other NAB news from Axia included the introduction of Pathfinder Core Pro – hardware based control for Axia routing switchers (no Windows server required), and the announcement of Dalet Radio Suite HD with Axia Livewire networking.

www.axiaaudio.com

**TC Broadcast Updates**

TC Electronic’s news from NAB included the introduction of MKII versions of its DB4 and DB8 cross-platform broadcast processors. The updated units conform to the new EBU, ATSC, and ITU loudness and true-peak level standards, and include redundant PSUs, inlets, and fans. Also new was an upgrade to the TouchMonitor TM7 and TM9 units, adding dual radar display to the LM6 meter algorithm, the ability to run multiple instances of the Surround Sound Analyser, and improvements to the on-screen help, GUI, and performance on the units.

www.tcelectronic.com

**NEW PRODUCT**

Sanken Microphones showed the new head-worn COS-11D HWM at NAB. This ultra-miniature microphone is optimised for voice and features an adjustable dual-earpiece frame, left/right interchangeable boom, and Sanken’s Vertical Diaphragm design. It’s available in beige or cocoa colours.



www.sanken-mic.com

NEW PRODUCTS

Sennheiser showed two new shotguns at NAB – the MKH 8060 and the MKH 8070. The 8060 is light-weight short shotgun aimed at camera mounting and boom applications, while the 8070 is longer and aimed at sports broadcast and nature recording. Both are compatible with the MZD 8000 AES42 module.

www.sennheiser.com

NEW PRODUCT

Neyrinck has announced SoundCode Exchange MXF, a new utility that makes it easy to import and export HD/SD MXF media in Pro Tools. It includes the MXFToProTools utility that lets you drag and drop MXF files directly into Pro Tools to import audio and video.



www.neyrinck.com

**Matrix.**

Integrate your analogue outboard

- DAW Controller
- Integrated Software-Controlled Patchbay
- 40 Input Summing
- Pro Studio & Artist Monitoring

**AWS.**

Mid-scale commercial studio powerhouse

- DAW Controller
- 24 SSL Mic Pre’s & EQ Channels
- Up to 56 Channels On Mixdown
- Comprehensive Master Section

**Duality.**

Large-scale commercial studio heaven

- DAW Controller
- 24, 48, 72 or 96 fader configurations
- Full channels with Pre’s, Processing & VHD
- Comprehensive Master Section

XXXX



RTW has announced loudness upgrades for its DigitalMonitor 10500X-PLUS, SurroundControl 31900/31960 and SurroundMonitor 11900 lines of products.

The upgrade adapts those instruments to current guidelines and standards and is expected to be released in July 2011. All units shipped after that time will implement the upgrade.

www.rtw.de

XXXX

Shure had a busy NAB. There were four new professional shotgun microphones: the new VP89 (available in three interchangeable lengths), and the VP82. Also there were the UHF-R UR5 Portable Receiver and UR3 Plug-on Transmitter, plus the VP68 Omnidirectional Wireless Capsule, aimed at ENG and field recordings of interviews.

www.shuredistribution.co.uk

TSL Expands Loudness Product Range

TSL Professional Products took the opportunity to introduce a new member to its PAM2 family of precision audio monitoring devices at NAB. The PAM2i-C enables the operator to export bar graph, data and loudness screen views from a PAM2 platform to a user-supplied external video monitor.

"The need to monitor sound levels has always been of critical importance to the broadcast industry," commented TSL's Business Development Manager, Martin Dyster. "But the field of play has now shifted from peak level to loudness. All of our bargraph audio monitoring units now feature loudness indication to ATSC A85 and EBU R128 recommendations in conjunction with traditional peak meter measurement."

The PAM1-3G16 also debuted at NAB. The new unit monitors multichannel audio with a full 16 bargraph display. It shares many of the advanced features of the company's multi-award winning PAM2-3G16, including loudness measurement, preset standard switching and advance monitoring mode selection.

www.tsl.co.uk



DK Meter Calms the World's Broadcasters

DK-Technologies will unveiled the latest addition to its range of high-end audio and video metering products at NAB. The DK Meter is a Compact Audio Loudness Meter (CALM) that handles stereo and 5.1 metering, including loudness. It is available in two versions; the DK1 for stereo, and the DK2 for 5.1.

"In light of the recent CALM legislation in the US - and the latest ITU and EBU recommendations regarding audio loudness in Europe - broadcasters have been crying out for cost-effective and easy to use metering technology," commented Richard Kelley, Director of Sales and Marketing. "This latest addition to our range fits the bill perfectly. It draws on DK's many years of experience in the audio metering market and addresses all of the issues broadcasters currently have with measuring loudness. What's more, like all of the meters in our range, this new product can be easily updated to accommodate any new standards that might be introduced in the future."

www.dk-technologies.com



NEW PRODUCT

Emotion has introduced File Finish, a software application that automatically analyses and fixes audio loudness violations in file-based media. The new application ensures compliance with the latest ITU-R BS.1770, BS.1771, and EBU R128 standards.

www.emotionengines.tv



NEW PRODUCTS



Denon Professional showing its DN-F450R and DN-F650R Solid-state Audio Recorders at NAB. The recorders are targeted at consultants and contractors, and are designed to be highly reliable under challenging conditions.

www.d-mpro.com

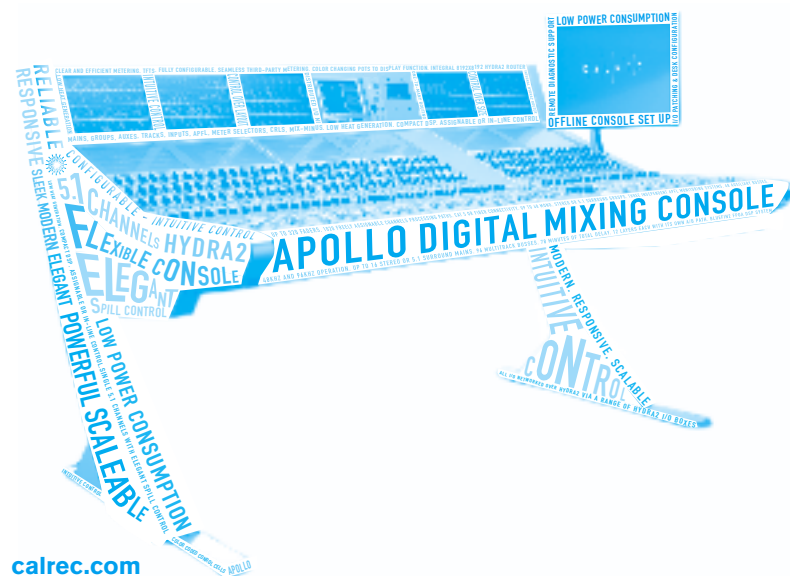
NEW PRODUCT

Marantz Professional exhibited its PMD661 Compact Digital Recorder. The new recorder features XLR inputs and an S/PDIF digital input. It is capable of recording in 24-bit/96-kHz.

www.d-mpro.com



APOLLO, FROM CALREC. FORM AND FUNCTION, SEAMLESSLY MATCHED.



Putting Sound in the Picture

Today's broadcasters need more and more audio channels at ever-higher resolutions, more power to handle this increased channel count and more ergonomic control surfaces to manipulate them.

Naturally, Calrec has the answer.

With the same levels of reliability for which Calrec are world-renowned and a remarkably intuitive control surface which still manages to add enormous flexibility, Apollo is nothing short of revolutionary. Able to operate at multiple sample rates, Calrec's Bluefin2 DSP engine equips Apollo with more than 1000 channels for 5.1 Surround production and its internal 8192* Hydra2 router turns the console into a powerful networking tool.

The world's most successful broadcasters rely on Calrec consoles.

Apollo is the first of Calrec's new generation.



APOLLO

calrec.com



Adapts perfectly
to any environment.

sapphire — as versatile as your requirements. Efficiency in a tool means it handles not only changing challenges but also changing users. Like the new sapphire from Lawo — the state-of-the-art tool for on-air broadcast and production. sapphire is a console packed with technology that will even inspire non-technical users; its easy operation instils absolute confidence in presenters. sapphire impresses sound engineers with its remarkable functionality, intelligent networking and smart configuration functions. This means you benefit from a highly efficient solution, and can react flexibly to any new requirement. www.lawo.de



BAFTA SUCCESS FOR HACKENBACKER



Hackenbacker Audio Post Production has won the 2011 British Academy Television Craft Awards in the Best Sound Fiction category. The London facility won the award for its work on ITV's major costume drama series, *Downton Abbey*, which aired in the Autumn of 2010. The award was presented The Brewery in London.

www.hackenbacker.com

WILL GARBUTT FOCUSES ON SALES

Prime Focus has appointed Will Garbutt as Senior Sales Executive for its UK Broadcast division.

"During my five years as a broadcast producer at Prime Focus, I've built strong relationships with clients," said Will. "Moving into the sales team seemed a natural fit."

www.primefocusworld.com

Re-brand, Expand, Well-Manned

Audio post-production facility The Voice and Music Company has re-branded itself as part of a major company expansion. The 21-year-old independent company will operate under the new name of Soho Square Studios.

The re-brand coincides with the upgrade of all of the company's sound studios to ProTools 9, and the recruitment of two new key members of staff; Sound Engineer Simon Capes and Dubbing Mixer James Doyle.



"The wealth of talent and experience that both Simon and James bring us will seriously bolster our established commercials business and our ever-expanding TV and film services," commented company co-founder, Kim Goody.
www.sohosquarestudios.com

Cedar Announces Respeed

Cedar Audio has announced the imminent arrival of Cedar Respeed, its new audio restoration and speech enhancement tool. Respeed identifies unwanted speed changes in audio. Once these have been determined, the track can be processed many times faster than real-time. The result is greater pitch stability and, when used on speech signals, improved intelligibility. Musical pitch variations such as vibrato and glissandos are not affected.

In addition to wow, Respeed addresses random speed fluctuations and continuous rises and falls in speed caused by problems such as failing batteries in analogue recorders.

www.cedar-audio.com



FIELD REPORT



LipSync's post-production division provided audio, online editing and DI for United, a dramatisation of the tragic Munich Air Crash of 1958. LipSync was also involved in financing the production, which enabled the VFX team to advise the production team on how to make the most of its budget from an early stage.

www.lipsyncpost.co.uk

INSTALLATION NEWS



A new screening room recently opened at Universal Pictures' London headquarters. The new room houses an Alcons Audio system comprising three CR1 front system cabinets, a BF181i 1x18" subwoofer, six CCS8 two-way co-axial surround cabinets and two ALC2 loudspeaker controllers.

www.alconsaudio.com

NEW A77X





- X-ART tweeter
- 2 x 7" carbon/fiberglass fiber-midwoofer
- 50W/2 x 100W amplification
- on-/off-switch and volume gain on the front panel
- tweeter gain and 2 shelf filters on the rear panel
- 30Hz - 50kHz
- XLR & RCA connectors
- 122 dB max peak SPL per pair

 Join us on Facebook
  Follow us on Twitter

www.adam-audio.com



Europe's leading supplier of broadcast audio technology

Broadcasters, post facilities and systems integrators rely on HNB's unrivalled experience and world-class service to ensure maximum return on their investments in audio technology.

T: +44 (0)20 8962 5000 E: sales@hnb.co.uk

www.hnb.co.uk

SCRUB
A DIVISION OF HNB

Soho / Post facilities please contact Scrub: T: 020 7025 6020 E: scrub@hnb.co.uk

HNB
FIRST WE LISTEN

TM Audio & Lightco Fit Out De Vorstin

The media city of Hilversum, half an hour from Amsterdam, home to most of the Netherlands' leading television and radio broadcasters, is now the proud possessor of a new, highly striking €11.8m concert building, with new sound and lighting systems from sister Ampco Flashlight Group companies TM Audio and Lightco respectively.

De Vorstin Poppodium ('The Queen Pop Stage'), a complex steel structure, that looks like a space-age remodelling of Manhattan's Flatiron Building, has no internal right angles – good news for

the acoustics.

It was designed by Architecten Cie, which also has the Heineken Music Hall in Amsterdam to its credit, and similar attention to detail can be found at De Vorstin. High quality finishes and a wide range of additional facilities including a rehearsal studio add to features such as a dedicated artists' café.

With an audio and lighting installation by Ampco Flashlight Group companies TM Audio and Lightco, the venue is intended primarily for pop and rock bands and is fully equipped with plug'n'play outside broadcast facilities.

Visitors can head either for the 850

standing capacity Main Hall, which alternatively provides retractable seating for 260 people, or the smaller Podium Café that accommodates 300.

The latter displays a sense of visual humour with a flown mobile made up of a jumble of old hi-fi loudspeakers of various pedigrees. This is purely for show, because in either corner of the small stage area, designed for small bands, solo performances, jazz and the like, is a flown pair of Martin Audio W8LM mini line arrays with down-fills either side and a WSX18 subwoofer.

Martin LE1200 or LE1500 floor monitors can be provided from De Vorstin's spacious equipment store as required, while the mixing console chosen for this multi-purpose space is a DiGiCo SD8.

Upstairs, the Main Hall shares the asymmetrical design approach with a balcony running around three sides. A wide stage 2m high is backed by rack rooms for the Martin Audio amplifiers, XTA signal processing, and an Allen & Heath iDR-8 audio distribution system.

The Main Hall's PA is flown



high and wide and comprises seven W8LM cabinets a side, while on stage is a compact ground stack either side that provides near stage infills in the shape of Martin Audio's new W8VDQ cabinets, each mounted atop a Martin Audio ASX subwoofer.

Flying hardware is a TM Audio custom fixed installation frame, saving space and weight compared to the standard touring version. Further fills are served by Martin H3T+ and S218 compact subwoofers. Stage monitoring is all via Martin LE1200 wedges.

Two DiGiCo SD8 consoles serve the Main Hall, with a Midas Heritage 2000 as an analogue option. To complement this flexibility TM Audio installed both digital and analogue cabling systems.



DiGiCo SD9 on the Road with Roger Hodgson

Supertramp co-founder Roger Hodgson is currently touring with Front of House Engineer Howard Heckers, a DiGiCo SD9, and a pair of DiGiRacks.

"The reasons we chose the SD9 are its sound-quality, flexibility, and its size – it is very compact to travel with," says Heckers. "Sometimes we have a flight to catch after every other show; the SD9 makes it easy for us to travel and still use our own FOH desk."

Another feature he likes about the SD9 is that they can only use one stage rack if Roger is playing a solo show, or use both when he is doing shows with a full band.



The console was supplied by DiGiCo's Dutch distributor TM Audio. "When we delivered the SD9 to Howard's studio, he was familiar with the complete console within an hour – it is that easy to learn," says the company's Jaap Pronk.

"When Roger and I hooked up the gear and listened to it, it sounded absolutely gorgeous, really crystal clear," Heckers adds. "In combination with the RME MADIface it is also really easy to fine tune the mixes after the soundcheck, or even bring the desk back to the hotel room after the show and fine-tune all my effects."

VITAL STATISTICS – THE NETHERLANDS

FULL NAME	The Kingdom of the Netherlands
POPULATION	16.7 million (UN, 2010)
CAPITAL	Amsterdam; seat of government: The Hague
MAJOR LANGUAGE	Dutch
MONETARY UNIT	1 euro = 100 cents
MAIN EXPORTS	Metal manufacturing, chemicals, foodstuffs
GNI PER CAPITA	US \$49,350 (World Bank, 2009)
INTERNET DOMAIN	.nl
INTERNATIONAL DIALLING CODE	+31

Golden Earring Celebrates with Yamaha

2011 will see Dutch rockers Golden Earring celebrating a remarkable 50 years in show business. Famed for 'biker anthem' Radar Love, Golden Earring is celebrated as one of Holland's most enduring rock acts. Although these days the touring schedule is less hectic than in the past, the band is committed to delivering the very best live productions. The Hague-based rental company Bourgonje Sound & Lighting (backline apart) supplies all of Golden Earring's production equipment.

Front of House Engineer Arjan van Egmond has worked with the band for 23 years, using the Yamaha M7CL mixing console since it was introduced. "The M7CL is easy and simple to operate, its layout is clear and logical and, most importantly, it always works," says Arjan. "I have tried all the other brands of digital console and came across

bugs in all of them – except Yamaha."

The band plays a wide range of venues and is a regular on the festival circuit, so the M7CL's small footprint and light weight are further bonuses. "The small footprint is very important in theatres and also means I can use my console of choice at festivals. The weight also makes it easy to move with just two people," he adds.

Arjan uses the M7CL's onboard processing, his only concession to outboard being a Crane Song HEDD on the console's outputs – a 1U unit engineered to be musically transparent while providing analogue sounds in the digital domain.

"The analogue sound of the HEDD is very important for my overall mix," he adds. "In combination with the M7CL, I get the best of both worlds. The sound quality of the console is exceptional, especially when you consider its price."



Rotterdam's Off Corso Upgrades with Synco

The largest live music venue in central Rotterdam, the 1,000-capacity Off Corso, has completed a comprehensive sound system upgrade following a long-term leasing deal with the Synco Europe Network. The club joins the Milkweg (Milky Way) and Paradiso clubs in Amsterdam, and the Tivoli in Utrecht, in providing exclusive Synco stage monitors, while Off Corso also now boasts a full Synco by Martin Audio line array PA system.

Off Corso, a multi-functional building, is housed in the former Corso cinema in Kruiskade, close to the central train station. As well as live music and DJ nights the venue also targets corporate events, seminars, fashion shows, cultural festivals, awards dinners,

and product launches.

Director and owner Pim Bottema has a long history in the Dutch club scene, having formerly managed the Tivoli in Utrecht, Night Town in Rotterdam, and latterly the nearby Calypso, where he bought his first PA system from Ampco, which founded the Synco Network. Elements of that sound system were moved to Off Corso after the Calypso's closure and are now incorporated into the new Synco PA.

Bottema comments, "We started doing club nights at Off Corso in 2001, and when I bought it in 2005 we planned to move into live concerts. Now we've chosen the Synco system so that we have an internationally recognised system that's acceptable to bigger bands than

we used to have here."

Dieter van Denzel, Senior System Designer and Account Manager for Ampco, project managed the installation. He said, "A lot of bands are used to Synco by Martin Audio systems, as well as Synco stage monitors, having experienced them at festivals like Lowlands, Pinkpop, and Glastonbury, so it's a great selling point for Off Corso."

The PA consists of six flown Synco by Martin Audio W8LC line array cabinets a side, supplemented by underhung W8LM and W8LMD cabinets for front-fill in the mosh pit. Six Synco RH-STS 18RRs a side provide the subwoofer component, and the whole rig is fine tuned with Synco-specific XTA processing. A full Synco CW152 (15-inch) monitor rig provides eight monitor groups plus a triple drum-fill with subwoofer. Control is via a 48-channel Midas XL200 console at front of house and a DDA Forum for monitors.

Among the first artists to play through the new system were Fun Loving Criminals, Burning Spear, and Israel Vibration.

MEDIA MATTERS

The Dutch approach to public broadcasting is different. Programmes are made by groups that reflect political or religious currents, or other interests. These organisations are allocated airtime on TV and radio, in line with the number of members they have.

Public radio and TV face stiff competition from commercial stations. Viewers have access to a wide range of domestic and foreign channels, thanks mainly to one of the highest cable take-up rates in Europe. Every province has at least one local public TV channel. The three national public TV stations enjoy high audience shares.

There were 14.9 million Internet users by June 2010 (Internetworldstats), comprising nearly 90% of the population.



Peeling Away Pinewood

Investment company Peel has made a bid for Pinewood that will perhaps give the studio extra muscle to help it succeed in difficult times. KEVIN HILTON finds out what this could mean for the studio in its new 21st-century role...

Pinewood Studios was established as Britain's very own Hollywood and helped define British cinema during the 20th century. MediaCityUK has been conceived as an international film and television production centre for the 21st century.

Both were created to be self-contained, almost self-sustaining cities that had everything filmmakers and TV producers needed within their boundaries.

Now there's the likelihood that the two will become united – by ownership at least – if Peel Acquisitions (Pegasus) is successful in its bid to buy all shares in the Pinewood group. Peel Acquisitions is a newly incorporated company controlled by Peel

Group, the infrastructure and real estate investment company that also operates Peel Media, which runs the MediaCityUK development.

Peel already owns 29.7 percent of Pinewood and has been looking to take a majority stake in the group for at least the last year. The investment firm initially offered £88 million for the Pinewood group, which also includes the film studios at Shepperton and the Teddington TV production centre, as well as the site in Buckinghamshire.

That offer was reassessed after controversial Egyptian businessman Mohammed Fayed declared an interest in buying Pinewood. The former owner of Harrods and present Chairman of Fulham Football Club was reportedly considering making an all-cash offer for Pinewood earlier this year.

Peel's latest approach, made on

April 27, ups the value of Pinewood, Shepperton, and Teddington to £96.1m (\$159.2m). The formal offer states that "each Pinewood Shareholder will be entitled to receive 200 pence in cash per Pinewood Share", plus a 2.5p dividend.

This improves on the original deal of 190p a share plus the dividend.

The Pinewood board is recommending that shareholders accept the deal. The Chairman of Pinewood, Lord Grade of Yarmouth, who, as Michael Grade, was Chairman of the BBC, Executive Chairman of ITV, and Chief Executive at Channel 4, said: "The Board is satisfied that the long-term future of these assets, which make such a contribution to the growth of the UK's creative industries,

will pass into safe hands."

Grade continued that the current management of Pinewood has moved the business on, pumping in money to "re-establish it as a world-class centre for all creative industries". While results for the year ended December 31, 2010, published in March, show revenue up eight percent to £43.4 million from £40.3m in 2009 and operating profit increasing 20 percent to £9.1m (£7.6m in 2009), the last few years have not been trouble-free.

The Hollywood writers' strike, which ran for three months from November 2007, and delays in implementing the new UK tax breaks for film production seriously affected the number of films passing through Pinewood and Shepperton. Budget cutbacks by broadcasters and declining advertising revenues gave

the broadcast side of the business a similar knock.

Even the serious financial press insist on describing Pinewood as the home of the James Bond films, so the delay in green-lighting the next 007 epic due to the bankruptcy of distributor MGM was another major setback. Because of these stumbling blocks the second biggest investor in Pinewood, activist fund Crystal Amber, last year called for Grade and another independent director to step down.

A Ray Of Light

Matters have improved this year, with the group opening a sales office in Los Angeles to actively bring in production from the US. Like other members of the filmmaking community, Pinewood has been affected by the recession but is looking to attract more inward investment, that is productions and money from overseas producers wanting to make movies in the UK. Which is why the new LA branch is an important step.

Pinewood already has representation in Berlin, Toronto, and Malaysia, and is keen to increase its joint ventures and operating agreements in different territories.

Group Commercial Director Nick Smith said the LA office "will build on the international recognition of the Pinewood brand", adding that "this strategic development will lead to more business for the group".

Recent films shot or posted recently at Pinewood are the updated *Gulliver's Travels*, starring Jack Black, *The Chronicles of Narnia: The Voyage of The Dawn Treader* and *Harry Potter and the Deathly Hallows Part 1*.

Project On Hold

There is still a considerable blot on all this, however. A central part of

the group's plans for the future is the Project Pinewood development, which is still on hold awaiting the outcome of an appeal against South Buckinghamshire District Council withholding planning permission.

Pinewood wants to build what is described as the world's first purpose-built "live work" film and television complex, with sound stages, audio dubbing theatres, and video editing suites, on 44 hectares of Green Belt land. The public inquiry considering Pinewood's appeal was underway in April, with closing submissions set for early May. After that the Inspector in charge will write a report to be sent to the Secretary of State for Communities and Local Government. A final decision on the planning application is due either later this year or early next.

"If Peel is successful in its bid for Pinewood it could use its considerable development know-how and muscle to push on with Project Pinewood..."

If Peel is successful in its bid for Pinewood it could use its considerable development know-how and muscle to push on with Project Pinewood given the go-ahead. MediaCityUK has taken shape slowly and up to the middle of last year was looking like being home to only the BBC and the University of Salford's media courses. Now SIS and Granada Television are pledged to move in,

with the first BBC programmes to be made there already on air.

Film and TV has always been a business, but there's a nagging thought that if Pinewood is owned outright by an investment company then some of the eccentricities of British filmmaking will not survive. Of course, it's those idiosyncrasies that probably partly brought it to a parlous state in the first place. However, I like to think that the modern equivalent of the cast and crew of a James Bond movie and a Carry On film sitting together at lunch in the Pinewood canteen can still happen today. **KEVIN HILTON**



THE POWER **TO REACH** YOUR GOALS

NewBay Media is the entertainment technology media expert, with a full complement of publications, websites and events that cover creation through distribution. No other publisher has the reach that NewBay offers in print, through such brands as *TVTechnology*, *Broadcasting & Cable*, *Multichannel News*, *Videography* and *Radio World*; online through our numerous websites, webinars and electronic newsletters; and in person through events such as **Digital Video Expo**, **Government Video Expo** and **DigitalVision**. And our reach is worldwide, with a full complement of targeted, locally produced publications in Europe, Asia and Latin America.

ONE COMPANY. ONE GOAL. YOURS.

We are here to help you succeed in any way we can – whether it is through our unique online and print media or our award-winning events and custom publications.

Learn more at www.nbmedia.com or contact
Carmel King, Executive Vice President,
Video Broadcast Division
703-852-4602 or cking@nbmedia.com



IN PRINT | ONLINE | IN PERSON

BROADCAST/VIDEO

TV TECHNOLOGY
BROADCASTING & CABLE
MULTICHANNEL NEWS
RADIO WORLD
VIDEOGRAPHY
DV
GOVERNMENT VIDEO
RADIO
CREATIVE PLANET

AUDIO

PRO SOUND NEWS
PRO AUDIO REVIEW
AUDIO MEDIA
CENTER CHANNEL
MUSIC PRODUCTION
TOOLBOX
MIX

MUSIC PLAYER

GUITAR PLAYER
BASS PLAYER
KEYBOARD
EQ
MUSIC PLAYER NETWORK
ELECTRONIC MUSICIAN

SYSTEMS INTEGRATION

SYSTEMS CONTRACTOR NEWS
AV TECHNOLOGY
TWICE
RESIDENTIAL SYSTEMS
RENTAL & STAGING SYSTEMS
DIGITAL SIGNAGE
SOUND & VIDEO CONTRACTOR

K-12 EDUCATION

TECHNOLOGY &
LEARNING
SCHOOL CIO QUARTERLY
SCHOOLCIO.COM
TECH FORUM

For more information on these brands and many others offered from NewBay Media, as well as subscription information for all of NewBay's print and electronic products, visit www.nbmedia.com.

Stars start to align for Develop 2011

The annual Develop in Brighton Conference will take place this year from July 19-21 at the Hilton Brighton Metropole, once again providing the European game development community a key opportunity to come together and learn from each other, share experiences, be inspired by world renowned experts, get up-to-date with the latest development tools and techniques, make new contacts and catch up with old ones.

Organisers, Tandem Events, say the programme (which is shaped by an advisory board of leading industry figures) 'touches all levels of the development community from the largest companies to the smallest studios; from development directors to programmers.'



The popular one-day audio track is scheduled for Thursday, July 21 and will feature a raft of presentations on game audio-related topics by leading audio talent from around the globe.

Though most of the programme remains under wraps at the time of writing, conference media partner *Audio Media* can reveal that this year's speaker line-up will include Alex Joseph (Senior Sound Designer and Producer, whose movie credits include *Casino Royale*, *Mamma Mia*, *Harry Potter 1-4*). In what promises to be a thought-provoking session entitled "Sound Psychology: Using Subliminal Sound To Prime The Subconscious Mind", Joseph will explore what games might learn from



film and its established commonly used psychological approaches and tricks, and in particular will examine how subliminal sound can be used to prime the subconscious mind to enhance the gaming experience.

Also announced is a session from Outsource Media's Voice & Casting Director Mark Estdale who will team up with US Actor/Director Laurence Bouvard (TBC) to give a no-holds-barred, hands-on practical workshop on getting the best from actors. The session, entitled "Voicing Games: The Keys To Unlock Believable Performance" will unpack the actors' tool box from Stanislavsky to Method and Meisner – and share the keys that help dialogue stand out. Using practical exercises and examples from a selection of recent titles, Estdale will get under the skin of 'how to get savvy with improving performances.'

For more information, visit: www.developconference.com.

iOS Support Included In Audiokinetic Wwise 2011.1

Audiokinetic Inc., the leading cross-platform audio solution provider for the video game industry, has released latest version Wwise 2011.1 which introduces new features and enhancements, including support of portable systems such as iOS (iPhone and iPad) and previously announced Nintendo 3DS™.

"The video game industry is evolving, casual and social games are becoming a focus for more partners. This also implies making games available on a wider range of media and devices," said Simon Ashby, VP of Product Strategy at Audiokinetic Inc.

In an effort to make Wwise accessible to a wide range of developers, Audiokinetic has confirmed a new pricing model for iOS projects. Developers will be able to license Wwise for US\$500. New public discussion forums will be made available to the community. Approved Nintendo 3DS developers that want to license Wwise will be able to purchase a license at US\$5,000.

www.audiokinetic.com



Media Mill And International Hobo Join Forces For Game Dialogue

Videogame service companies International Hobo Ltd and Media Mill have announced a new creative alliance, forming a one-stop shop to provide dialogue scripting and voice recording for all levels of the global videogames industry. Between them, they have two decades of experience on more than sixty published titles in the vitally related roles of story development and sound design.

A specialised game design and narrative resource, International Hobo delivers award winning game design, concept design, dialogue scripting, and narrative support. The company has worked on over thirty videogames since being established in 1999, including million-selling *S.T.A.L.K.E.R.: Shadow of Chernobyl* and *Bratz: Rock Angelz* titles, cult classics *Ghost Master* and *Discworld Noir*, and recent AAA titles such as *Cartoon Network Universe: FusionFall* and *MotorStorm Apocalypse*.

Meanwhile, Media Mill (formed in 2000 by former BBC radio journalist Jerry Ibbotson) provides a range of audio services including sound design, voice recording, sound effects creation, and audio for animation. The company has worked on more than thirty titles including *Broken Sword*, *Split Second*, *Pursuit Force*, and the *WRC*

series. Most recently it has provided a range of audio services for *MotorStorm Apocalypse*, *Shogun 2: Total War* and *Driver: San Francisco*.

International Hobo's Chris Bateman: "Modern videogames require high quality narrative materials, and allying with Media Mill allows us to produce world class voice over materials and sound effects for any project." Media Mill's Jerry Ibbotson, adds: "When we started working with ihobo, things just clicked into place. The services we provide perfectly complement each other. We're still two separate entities but by working together we can offer developers everything from an initial script to the final delivery of voice materials. It also means we can develop better ways of working, so that creativity stays where it needs to be – at the forefront of a project."

www.mediamill.co.uk

<http://blog.ihobo.com>



Thought For The Day: Rev. Limiter

Jerry Ibbotson explores a complexity of client relations that goes deeper than you might expect.

There can't be many areas of audio work where you risk getting a face full of scalding hot steam. Kettle mishaps aside, those kind of incidents tend to be very much in the minority. So how come I've managed to have two steam-related near misses in the past few months? Granted, I've been doing a lot of recording for various driving-based games but until recently it had all passed quite smoothly. Okay, so there was that one time, years ago, when a rally car I was in caught fire, but we don't like to mention that.

With any type of recording session, whether it's a band, an orchestra, or a tonne and a half of automotive muscle, you're always trying to get the best result. And you've often under pressure from outside forces not to settle for second best. That's a fine attitude to take when the worst that can happen is the drummer can storm off of a huff, but when you're in danger of blowing something up it takes on a whole new perspective.

Let me give you one example. We were recording a car for a very big game that's for release in the next few months. We'd already recorded nearly fifty vehicles for this title, over a period of many weeks, using an eight channel recorder. On this occasion we'd gone equipped with a Tascam HS-P82, an utterly brilliant machine that has superb sound quality and can be set up from scratch in about ten minutes. I'd been worried that getting to grips with it was going to be the day's biggest issue. But I was wrong...

The car in question was something of a talking point: a 1981 Delorean. Yes. The car from *Back to the Future*. All stainless steel and gull wing doors. 88 mph and my clothes are suddenly back in fashion.

The thing is, back in '81 I was a schoolboy, with a crush on a girl called Jenny Pickersgill. A lot of water's passed under the bridge since then and the years have taken their toll. On me and this car. I asked the owner how high he revved the engine.

"To about four thousand," he said, "though it redlines at six."

"Okay, so we'll take it to four," I said, nodding wisely.

At this point the chap from the game developers stepped in. "He's not brought it all the way here not to rev it properly," he said, with a certain firmness.

I put my case: that the engine was probably older than him, but he insisted. Knowing that the owner had signed my waiver form, I backed down. We did indeed rev the engine to six thousand and all seemed well until the very last part of the recording when there was a loud pop. Somewhere on one of the tracks you can hear me saying, "Kill the engine. It's just wet itself."

And it had. An engine coolant pipe had split, firing hissing steam in one direction and furiously bubbling liquid in another. And as luck would have it, the car owner and the guy from the game developer were standing less than a foot away

when it happened. Mr Game Developer Man looked sheepish. The Delorean owner had an expression that said, "I should have listened to you, not him." Both were relieved to still be in possession of their eyebrows.

There's no right or wrong in this. Should I have stood my ground and played it safe, or is the client really always right, even when I know he's not? At least I proved myself right, albeit at the cost of one failed engine. I'm hired to be a sound recordist, not an auto mechanic but surely no recording is

worth a scalded face? Maybe this is a more dramatic example but the client relationship is full of these kind of decisions and compromises. What would you do...?



Perfect take every time ...

Gil Norton
 Foo Fighters
 Pixies
 Gomez
 Feeder
 Counting Crows
 Maximo Park

"I can't remember a single session over the last 5 years on which I haven't used an SE mic"

"I've found the 4400a to be a hugely versatile mic - it's great for acoustic instruments, and I especially like it on drums and percussion. Its hyper-cardioid pattern is extremely useful on toms and snare as it controls cymbal spillage really well and delivers great punch and tone"

- 4 polar patterns
- 10 and 20dB pad
- 60/120Bass cut
- Hand crafted capsule specialist result of tuning for multiple instrument and vocal applications
- Multi function shock mount (patent pending)
- Available as a stereo pair

The 4400a is specially tuned to get the most from a wide range of recording applications including vocals, drums, guitars, piano, strings and wind. This makes it the ideal choice for project studios and professionals alike, a mic that engineers in the know can call on in any situation to get the best results, and fast!

0845 500 2500
www.se-distribution.com **SONIC**
 Sound Engineering
www.selectronics.com

ALISTAIR MCGHEE argues that the Neumann KH120s offer up such an unremarkable sound, that it is in fact, quite remarkable.



THE REVIEWER

ALISTAIR MCGHEE began audio life in Hi-Fi before joining the BBC as an audio engineer. After ten years in radio and TV, he moved to production. When BBC Choice started, he pioneered personal digital production in television. Alistair is now Assistant Editor, BBC Radio Wales, but is allowed out occasionally.

I often think to compare the loudspeaker designer's drivers to an alcoholic's drink: one is too many and a million not enough. When faced with this conundrum it seems most designers settle prudently for two drivers, and it seems to me there is much wisdom in that. I hear the arguments made for a minimum of three units to cover the audio spectrum with sufficient output power, and yet the physical size of a three-drive unit speaker combined with the demands on a more complex crossover probably involve costs a whole magnitude greater. Which is why two is so often the magic number for small speaker drive units.

Revered By A Name

If there's nothing surprising about the configuration of the Neumann KH 120, and two drivers in a small vented active box is not revolutionary, then maybe the very name is something to give us pause. My delivery came sealed with packing

tape that proudly proclaims Neumann as *the* microphone company, and who can argue with that? No one ever got fired for suggesting, 'What about a U87?', and only the other day I came over all nostalgic for an SM69 – but that's another story.

In fact Neumann and speaker manufacturer Klein and Hummel have been part of the same (Sennheiser) group for a few years now, and in a world where brand recognition is a powerful consideration I guess it made sense to make the most of the legendary Neumann moniker. K&H is dead, long live Neumann.

Firing up the 120s the second thing you notice is how unremarkable the sound is. Remarkably unremarkable. There's a great temptation in speaker design to add a little 'sparkle' at the top end. However, what might make your speaker stand out in a short demo often leads to a tiring top end that makes lengthy listening a pain. No such worries with the 120s. The bottom end, too, sounds well under control, and surprisingly extensive for a five and a quarter-inch drive unit in a sub-ten litre cabinet. Of course being active helps, I'm sure, but even so the -3dB point at 52Hz is quite an achievement. Like most of the competition the Neumann is a reflex ported design, but unlike many competing designs the bottom stays tuneful and avoids the waffle that afflicts many a small system trying to sound big.

The Sparkle's In The Detail

The finish on the aluminium cabinet is, as you would expect from a Neumann product, fantastic. A switched mode power supply keeps the weight down. Round the back you have balanced input on XLR, two gain controls – one input and one output – and some switches to control room EQ and the first thing you notice when you fire up a pair of these. A glorious illuminated Neumann logo that you can switch to dim or off – but why would you do that? The world needs to know you own classy monitors, it's half the point after all.

I don't go much by measurement unless you have the right room and really know what you're doing, but I have been playing with the ARTA software for some

time now, and this was too good an opportunity to miss. I did a simple frequency response and the top end looks pretty smooth and the curve revealed no nasty surprises. One of the main duties of monitors is to allow you access to different elements of the programme material in isolation from the rest. That could be the ability to separate out instruments in a mix or clearly distinguish the reverb tails or provide imaging detail that allows you to hear exactly the effect of your pans or delays. Good monitors keep you from over doing the EQ and alert you to compression artefacts that might otherwise escape your notice.

In my experience, once you know something is in a mix then you'll probably hear it on most half decent speakers, but the trick is to hear it in the first place, that's where quality monitors come in. And the KH 120s are quality monitors. The top end offers all the detail with a precision that makes it easy to hear what is going on in your mix. The mid-range is free from honk and congestion, and within the confines of a small two-way monitor bass is clean and well articulated.

NEUMANN KH 120

Active Studio Monitor

Listening to familiar material was a joy. It's nice to be surprised when listening to a programme that you've heard a hundred times before. All of a sudden an extra guitar part materialises out of the musical mist, or the reverb round a kit comes sharply into focus.

At the same time, a monitor is a tool you'll be using hour after hour and day after day. To do that job successfully requires a level of neutrality in presentation that is not easily achievable. Whatever a monitor does it has to do without being fatiguing – if you've been mixing for 12 hours the last thing you want is a mid-range peak or top end zip that wears you down. In the KH120s Neumann has delivered neutrality that makes not just a great speaker, but a great monitor.

What's not to like? Well, you have to plug them into the mains and they work best with a proper monitor controller. Like virtually all active speakers the controls are on the back, and even if you could get at them you'd have to adjust each one individually, and where's the fun in that? That's about it really.

There are less expensive monitors, and certainly bigger ones, for your money. But then size isn't everything and as I said, no one ever got sacked for buying a Neumann. **AM**

.....

INFORMATION

Ⓜ €587.00 (exc.VAT)

Ⓐ Neumann GmbH, Ollenhauerstr. 98, 13403 Berlin, Germany

☎ +49 (30) 41 77 240

🌐 www.neumann.com

Ⓐ UK Distributor: Sennheiser UK Ltd., 3 Century Point, Halifax Road, High Wycombe, Bucks, HP12 3SL

☎ +44 (0) 1494 551551

🌐 www.sennheiser.co.uk

THE NEW M-480 V-MIXER FROM ROLAND

Introducing a 60-channel console built around a world-class mixing engine. The M-480 combines power and flexibility with a simple, intuitive user interface. And for anyone in the hire or rentals business, you'll get a better return as it's a lot more affordable than you'd imagine.

Call 01792 702 701 to arrange a trial
www.rolandsystemsgroup.co.uk

SELECTED SYSTEM SPECIFICATIONS

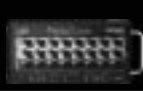
- > INPUT: 48 channels + 6 stereo returns
- > BUS: L/C/R, 16 AUX buses, 8 matrix buses
- > Channel input delay: 60 Channels
- > Full 4-band PEQ
- > 48 Gates, 48 compressors and limiters on outputs
- > Output delay: 27 [all output buses]
- > Effects and GEQ: six stereo effects, twelve GEQ processors
- > CASCADE: connect two or more M-480 consoles

REAC

ROLAND'S CORE ETHERNET-BASED TECHNOLOGY ENABLING THE RAPID, EFFICIENT TRANSFER OF PRISTINE DIGITAL AUDIO



S-4000 SERIES
DIGITAL SNAKE



S-1608
STAGE UNIT



S-0808
8X8 I/O UNIT



S-4000M
REAC MERGE UNIT



S-MADI REAC BRIDGE
S-4000D SPLITTER



M-48
PERSONAL MONITOR

Roland
Systems Group

A high-specced
chameleon
that can take to
the stage as easily as
the studio, says
STEPHEN BENNETT of
DiGiCo's new SD
console.

DiGiCo's successful range of SD consoles is based on the power and programmability of the company's Stealth Digital Processing, via a Super FPGA engine. This has allowed DiGiCo to develop a series of smart solutions aimed at the various strata of the live, broadcast, and theatre marketplaces, the similarity of implementation of features across the range making it easy for the user to swap between the various consoles and to share peripheral resources. The latest additions to the family – which includes the SD7, SD8, SD9, and the also new SD11 – are the SD Ten live console and its broadcast specific counterpart, the SD Ten B.

"The SD Ten sits between the SD8 and the flagship in our range, the SD7," says James Gordon, Managing Director at DiGiCo. "This is both in terms of price and performance, with the SD Ten providing 96 channels of full processing – 12 of which are full Flexi Channels – and 48 assignable busses – far more than you get with any other mid-market console currently available."

A common design from engine to surface interface provides easy access to the console's audio control. The SD Ten works with DiGiCo's second-generation I/O, the SD-Rack, which delivers up to 192kHz, and has the ability to connect up to 14 racks and five redundant-engined consoles to the system, with 448 audio channels on a single redundant loop. "As well as

talk to output with dim control.

DiGiCo has also partnered with Israeli Software Company Waves to bring its Sound Grid technology onto the SD platform. "If you think of quality plug-ins, they are the first brand that springs to mind," says Gordon, "and the Sound Grid platform is a very low latency system, which was imperative for us."

The Waves plug-ins are provided in addition to the console's own Stealth FX, and provide access to much of Wave's renowned software including bundles such as Mercury, SSL 4000 Collection, GTR3, JJP Analog Legends, Studio Classics Collection, the API Collection, and Gold, as well as individual classics such as the L2 Ultramaximizer and C4 Multiband compressor.

All of this makes the relatively diminutive SD Ten physically imposing as well as ergonomically well equipped.

Especially For Broadcast

The 'B', when added to the SD Ten moniker, denotes the Broadcast version of the console. The hardware remains the same, but the software repurposes the control to provide facilities specific to broadcasters – it gives the ability to be two desks in one. "When you buy the SD Ten you're actually buying the potential for two consoles – the live sound version and the broadcast versions,



DIGICO SD10 & SD10B

Live & Broadcast SD-Series Consoles

being a great live sound option, the SD Ten very much fits into the bigger infrastructure for our installation business, which is an area of growth," adds Gordon. "Having a console that integrates with the SD7 and SD8 is important – as is the fact that DiGiCo consoles can all share racks, which is a significant advantage for installs. For example, on a house of worship system, you might be doing front of house, monitors, and broadcast, which requires three consoles. With almost any other digital console you would need to have active or passive splits, which means an awful lot more cabling infrastructure. With the DiGiCo system, you have just one rack, with all of the consoles able to see all of the inputs and able to allocate outputs in blocks of eight. This means you can share the resource as if it's a big audio router."

Technical Dedication

The SD Ten comes with a raft of new options that add to the general utility of the console, and the SD Ten B application specific extension adds a broadcast-specific feature set. "We have included 37 touch sensitive faders, plus four layers of 10 SmartKey Macros – that's 40 user defined buttons," says Gordon. "And multi-channel 'folding' allows configuration of stereo, LCR, 5.1, or up to 11 mono channels under a single fader strip, which is a really neat solution and extremely useful in broadcast."

The SD Ten's powerful processing includes channel delay, single and multi channel presets, HPF and LPF, four bands of parametric EQ, compressor and gate, dual insert points and access to all bussing. Output channel processing includes output delay, eight bands of parametric EQ (only available on the SD7 until now), compressor and gate, dual insert points, groups with buss to buss routing and Auxes which have direct

depending on which software you're running," says Gordon. "This changes all of the terminology and much of the functionality of the desk and makes it specific for the intended market and significantly impacts on return on investment: the SD Ten B, for example, could be used for a sporting event for several months and could then be repurposed as a live console for the rest of the year, adding an additional revenue stream."

DiGiCo has already had great success with this approach via the SD7T, the theatre-specific version of the SD7, and the company is confident that the broadcast model of the SD Ten will prove just as popular.

"We have a track record in the broadcast industry from our Soundtracs days and broadcasters have seen our touring products via their close links with live sound, whether that's actual live events or during the audition stages of shows like The X-Factor or Britain's Got Talent," says Gordon. "They have commented on the ease of operation of our live desks, but wanted dedicated broadcast facilities. There are a lot of extremely good high-end broadcast consoles in the market already, but the SD Ten B fits a different tier of budget and still offers all the features and functionality of the bigger consoles, such as surround sound, channel folding, large scale 5:1 monitor matrix, and so on. There's currently no console at this price point that offers comparable features. The response we had at this year's NAB launch, and the interest from serious names in the broadcast world, has been considerable." 

.....

INFORMATION

- ① SD10 prices start from GB£35,000, SD10B from GB£40,000 (exc.VAT)
- ② DiGiCo, Unit 10 Silverglade Business Park, Leatherhead Road, Chessington, Surrey, KT9 2QL
- ③ +44 (0) 1372 845600
- ④ www.digico.biz
- ⑤ info@digiconsoles.com

THE REVIEWER

STEPHEN BENNETT has been involved in music production for over 25 years. Now based in Norwich he splits his time between writing books and articles on music technology, running his own Chaos studios and working in the Electroacoustic Studios in the School of Music at the University of East Anglia. He's also a filmmaker with several music videos and short films to his credit. www.stephenjamesbennett.co.uk

STEPHEN BENNETT
finds out more
about the console
and recorder that
make up Roland's
first foray into the
live console arena.

Launched at the Frankfurt Musikmesse in 2011, Roland Systems Group's M-480 live digital mixing system is an update to its successful M-400 digital console.

It features 48 input channels and six stereo returns (making a total of 60 inputs in total), 24 physical faders plus a master fader, 16 auxes, and a sampling rates of up to 48kHz at 24-bit. Scene snapshots can be saved, channels grouped, and there's a useful monitor and talkback section, while the 800x400 colour display provides feedback on all sections of the console, including the effect settings and metering. REAC (Roland Ethernet Audio Communication Protocol) connectivity provides high quality digital audio transfer between the stage box and other peripherals, and two M-480s can be linked to allow the user to access up to 96 input channels. All inputs and outputs are equipped with a four-band fully parametric EQ, while a gate and compressor is available on all mixing channels.

To compensate for problems or distances in venues or in a broadcast situation, a delay can be inserted on inputs and outputs, while effect parameters of the six dual stereo effects processors are controlled using dedicated knobs and buttons on the control surface.

REAC technology makes the M-480 a more flexible and sophisticated beast than may at first appear. In conjunction with the M-48 live 'personal mixer', sophisticated multi-channel monitoring systems can be set up, and means the desk will be equally at comfortable with broadcast duties – not to mention REAC's obvious use in a typical CAT5-based stage box/front of house system.

R-1000 Recorder/Player

Kenning says that the R-1000 recorder is a new product born from the need for sound engineers to be able to do a 'virtual soundcheck' at live venues. "The R-1000 is a 48-track recorder/player that allows us to record directly from the M-480's preamps and then say goodbye to the band halfway through the soundcheck!" says Kenning. "Then the engineer has more time to effect the mix digitally without placing any stress on the band."

This makes a lot of sense, as there's nothing more dispiriting for a band than having to run through large proportions of their set several hours before an actual performance, and nothing more essential for an engineer that they do just that if he wants to get the sound right.

ROLAND M-480 & R-1000

Live Digital Mixing Console & 48-Track Recorder/Player

The R-1000 48 track recorder/player, also announced at Frankfurt, records up to 20 hours of up to 48kHz, 24-bit audio as standard broadcast WAV files onto its internal 500GB hard drive and complements the console nicely with its REAC connectivity – but Roland hopes it will have a bigger impact on the general marketplace.

M-480 Console

"We developed the M-480 as a result of feedback from the end user community," says Simon Kenning, Business Development Manager of Professional Audio at Roland Systems Group UK. "M-400 users were saying to us that they needed more graphic EQs and more control over parametric EQs – especially that they needed four bands rather than two – and that's the reason that the M480 has the new EQ modelling on board. Likewise, we've implemented sample delays on inputs and outputs after requests from users. Technology moves at such a pace now – chip manufacturing changes constantly allow us to add more DSP functions that weren't available at the start of the development cycle. The M-400 was Roland's first entry into what was, for us, a new marketplace, and whilst it's been very successful, the M-480 takes us to a new level. Musical instrument sales at this level are getting more challenging, so it makes sense for Roland Systems Group to move further into the pro audio and video world – we see this area very much as the future for us."

Although Roland has an enviable reputation in some areas, such as musical instrumentation and signal processing, it has, until recently, been notably quiet in the live console area – a situation Kenning hopes to change starting with the introduction of the M-480 and R-1000. "We've always prided ourselves on the pristine quality of the audio, high quality of the technology, and reliability of the equipment," he says. "The REAC protocol that everything is founded on is an original Roland-developed core technology, which keeps the cost of the products down for the end user as we've not had to add the cost of bringing in a third-party technology, unlike some of our competitors. When we brought out the Digital Snake, the use of CAT5 was greeted with some suspicion by the industry; now most manufacturers are looking for solutions based around CAT5, MADI, or fibre – it's been a fascinating process to watch over the last five years."

"The R-1000 can of course also be used as a 48-track stand-alone recorder in tandem with the preamps," adds Kenning.

"Because you can decide to use either the 'live' or 'recorded' preamps, you can use the R1000 as a backing track solution as well. We keep everything in the REAC domain and so essentially you're sitting the R-1000 between the stage box and the front of house console – the touch screen-based user interface is easy to use and allows the engineer to work just as if they have a tape player bolted in there."

Kenning says that when coupled with the Roland S-MADI unit, the R-1000 can also be used with any other MADI-based digital console or recording solution in the market and that the latency of the system is so low, that's it's "not an issue at all."

"We are absolutely committed to this market," concludes Kenning, "...Both in the UK and worldwide, and we are making significant investments in new products that will be released into this arena in the future."



INFORMATION

❶ M-480: GB£7,499.00, R-1000: c.GB£3,500.00 (exc.VAT)

❷ Roland Systems Group UK, Atlantic Close, Swansea Enterprise Park, Swansea, SA7 9FJ

❸ +44 (0) 1792 702701

❹ www.rolandsystemsgroup.co.uk

❺ info@rolandsg.co.uk

THE REVIEWER

STEPHEN BENNETT has been involved in music production for over 25 years. Now based in Norwich he splits his time between writing books and articles on music technology, running his own Chaos studios and working in the Electroacoustic Studios in the School of Music at the University of East Anglia. He's also a filmmaker with several music videos and short films to his credit. www.stephenjamesbennett.co.uk

Processing without the muddy clutter? SIMON TILLBROOK finds it is possible, with a little help from the Voice of God.

Jonathan Little of Little Labs has been making quirky signal processors and preamplifiers since 1988. With an electronics background, and as a studio technician in many of Los Angeles' finest studios, he is well qualified and experienced enough to produce devices that have an interesting twist to them.

The Little Labs VOG (Voice Of God) is a unit that fits into a 500 series host, such as the API Lunchbox, but there are plans for a stand-alone version more akin to other devices in the Little Labs' ever expanding range.

What is the VOG?

The Little Labs VOG is, in effect, a bass resonance tool that was originally designed with voiceover work in mind.

The idea was to combat the problems of lost vocal definition with microphone proximity effect. You often want to use proximity effect to broaden the lower mid-range for a warmer, sexier feel, but this usually comes with additional muddiness that needs to be dialled out.

taken with just how well the Little Labs VOG worked in this application.

This device is simplicity itself to operate and delivers broad low mid resonance with wonderful clarity. It was with female or thin sounding vocals where the Little Labs VOG was really able to show you what it could do and shine.

Moving onto instrumentation, I took a number of kick drums, toms, bass guitars, and synthetic bass sounds to see what could be gained from using the Little Labs VOG.

Across all of the signals that I tried, a real beefing up took place, but without the muddy clutter that so often accompanies such processing.

Drums gained depth and clarity with the Little Labs VOG installed on them. Toms, in particular, could be manipulated in terms of pitch with the Little Labs VOG. There was a limit to this, but it is an interesting and natural sounding possibility to have available to you.

You can be very subtle with the amount of process that

LITTLE LABS VOG

Analogue Bass Resonance Tool

The Little Labs VOG lets you focus in on the chest resonant frequency and bring it up without the additional clouding of the signal.

This is achieved using a peaking high pass filter with a very tight bandwidth that can centre with frequencies between 40Hz-300Hz with a 24dB per octave slope either side of it.

The Little Labs VOG is fully balanced throughout with a single amplifier circuit for optimum signal quality, allowing it to be used at the highest sonic levels.

Control

With the Little Labs VOG, we have just three buttons and two rotary controls with a series of LEDs to indicate selections and operation.

The three buttons are used to select the centre frequency range you are going to sweep through. One of these is labelled 'Flat'. This is a flat frequency response selection and not a bypass, as you may initially think. The Little Labs VOG still has an impact to the overall feel even in this position.

The other two buttons are labelled '40' and '100', with the legend '40/200' sitting between them, so you can select either a 40Hz or 100Hz centre frequency or, when selected together, a centre frequency of 200Hz.

One of the rotary controls on the Little Labs VOG-labelled 'Frequency' relates to your selection. This rotary control has a scale that runs numerically from 1-10. It is the five-position that relates to the specific centre frequency you have chosen with the buttons. It is from there you can sweep up and down to find the fundamental frequency you require.

The other rotary control available to you on the Little Labs VOG is Amplitude, and does exactly what you would expect, delivering up to 18dB of additional boost at the selected frequency peak.

Use

I first took the Little Labs VOG and used it with a variety of vocals as per its designed orientation. I was instantly

you introduce, but I can see the amplitude control spending most of its life at the higher end of its setting possibilities if my experience was anything to go by. The Little Labs VOG delivered positive results with all the options that I tried with it.

Conclusion

The Little Labs VOG is a very interesting device indeed. I absolutely loved it. It is very refreshing to see a company taking a slightly different route with processing and focusing on areas that are of real benefit to us, the user.

For voiceover work, and virtually any sound that could benefit from some low frequency treatment, the Little Labs VOG is a unit you simply must take a listen to. I think you may come to like it just as much as me. **TM**



INFORMATION

Ⓜ GB£340.75 (inc.VAT)
 Ⓐ Little Labs Professional Audio
 ☎ +1 323 851 6860
 🌐 www.littlelabs.com

Ⓐ UK Distributor:
 Unity Audio Ltd., The Elms Barn, Baythorne End,
 Halstead, Essex, CO9 4AF, UK
 ☎ +44 (0) 1440 785843
 🌐 www.unityaudio.co.uk

THE REVIEWER

SIMON TILLBROOK is the Principal Music Tutor at Islington Music Workshop in London. The rest of his time is spent as a freelance engineer, mainly in the USA.

Shadow Hills Industries has been producing top of the line preamplifiers and dynamic processors that have found many fans around the world, of which I am one. I love the Batcave styling and uncompromising build quality of these units, some of which are available to mount in the API 500 series hosts.

The Shadow Hills Mono Optograph is a single channel compressor that will occupy two slots of your 500 series host.

The Mono Optograph uses the Shadow Hills optical compressor cell from the company's monstrous mastering compressor as the basis of its design, with a few additional functions. The electroluminescent optical attenuator controls the quantity of your audio program transients that are processed, and has a two-stage release time process where eighty percent of the processed audio recovers quickly with the last twenty percent taking over a second. The time has a small amount of flexibility, based on the amount of gain reduction that has been applied. This is all controlled from the two rotary controls on the front.

Use

I have come to expect a great deal when presented with another unit from Shadow Hills. The benchmark the company sets itself is always high and, with products priced at the premium end of the market, you do need to impress.

The Shadow Hills Mono Optograph does not disappoint. As with all Shadow Hills units I have used, the Mono Optograph works with the sonic attributes of the music to bring the sound or combination of sounds together.

Without the usual array of parameters associated with compression you might argue that the Shadow the unit lacks flexibility of control, but that would miss the point.

You do need to spend time with a device such as this to appreciate the subtleties and sonic variations that can be achieved with the Compression and Makeup Gain rotary controls, along with the various side chain filter options – and the Desaturation mode adds yet more sonic possibilities to the mix.

The Mono Optograph is very good indeed at pulling

The standard set by past Shadow Hills products is high, so how will the new Optograph compare? SIMON TILLBROOK welcomes the single-channel compressor into the Batcave...

SHADOW HILLS OPTOGRAPH

Stereo Optical Compressor

Looking at the Shadow Hills Mono Optograph, you have a small retro VU gain reduction meter with the two rotary controls directly underneath, one over the other. These two Elma rotary switches have twenty-four notched positions each, and are labelled 'Compression' and 'Makeup Gain'.

The compression is effectively the threshold control, which increases the amount of the audio program compressed by rotating clockwise, and output level is dealt with the Makeup Gain.

Flanking the central gain reduction meter of the Optograph are two multi-position switches. The left is marked 'Condition'. This three-position switch moves between Bypass, Engage – to activate the Mono Optograph, or Desaturate. This selects a transformer desaturate mode.

The input of the unit uses a Jensen input transformer and the output has a custom nickel-wound transformer. This mode relates to the latter by cancelling out distortion caused by the transformer when undesirable, a kind of transformer bypass mode. There are a series of green lights to indicate the condition selected.

The switch to the right of the Gain reduction VU of the Shadow Hills Mono Optograph is a side chain filter selector with five positions, including 'off'.

The other selections are 90Hz, 150Hz, 250Hz, and Bandpass. The filter selected determines the point at which compression occurs so, for example, if 90Hz is selected all content below 90Hz would not be compressed.

In the case of Bandpass, this is very much dictated by the audio signal passing through. It is the signal's midrange that triggers the compression, with high and low frequencies ignored. As with the Condition selected, there is a set of green lights to show the filter position selected.



together, particularly sounds with a low mid frequency detail. I found that with vocals, drums, bass, and acoustic guitar, the Shadow Hills Mono Optograph pulled the sonic elements together and added in a little character of its own, broadening the lower midrange without dulling any of the high frequency content.

With a pair of Shadow Hills Mono Optograph units to use for main buss or subgroup compression, the range of applications would expand once again.

I tried the single channel. I had to get a feel for using the unit for such applications, and only ended up wishing I had that second channel.

Conclusion

The Shadow Hills Mono Optograph continues delivering everything I expect from Shadow Hills.

It takes a little time to fully understand and appreciate what the Mono Optograph is capable of with apparently limited parameter control, but you soon forget such things and simply enjoy what this single channel compressor can offer your projects. **100%**

.....

INFORMATION

- ④ GB£1,100.00 (exc.VAT)
- ④ Shadow Hills
- ④ www.shadowhillsindustries.com
- ④ UK Distributor: KMR Audio
- 1375 High Road, Whetstone, London, N20 9LN
- ① +44 (0) 208 445 2446
- ④ sales@kmraudio.com

THE REVIEWER

SIMON TILLBROOK is the Principal Music Tutor at Islington Music Workshop in London. The rest of his time is spent as a freelance engineer, mainly in the USA.



John Broomhall talks to Audio Director, Stefan Strandberg, about his team's award-winning work on DICE's acclaimed military first-person shooter

Strandberg: "We were really, really nervous about getting up on that stage! But it was such a big honour – we got this final approval from the upper echelons of the game audio community – and that feels really great. We've been thinking that we've been doing something right but when someone says it officially like that... It was a big deal for us and it's resonated well within the company too, strengthening our way of looking at and hearing things. We humbly accepted the BAFTA award and we're very proud of it."

A Mere Decade Ago...

Rewind ten years, and Strandberg was working with fellow veteran DICE colleague, David Mollerstedt, at a local music studio. However, his spare time was frequently occupied with

recordings we make during the military exercises that take place around Stockholm periodically. Running around the forest with shotgun mics 'recording from the hip' also yields some fantastic assets...

"You get back and update your libraries and find stuff you just love – and you think, 'This one sound changes everything!' Then you adapt other audio to work with that sound – it's like you've found the Rosetta Stone. For instance, we got a much bassier recording of a machine gun and used it at different pitches to homogenise a lot of the weapons. It really helps to create iconic differences between assault rifles and machine guns. In fact, we've worked very closely with design to make sure there are small sonically unique identifiers for everything in the game providing important audio cues which will improve you as a soldier. Though they're not mentioned in the manual, it's cool how people pick up on them – it's all part of the gameplay depth."

'And the BAFTA for 'Use Of Audio' goes to...'

Battlefield

Bad Company 2

customising the audio content of his favourite computer games – so-called modding. It was a pastime that was to prove a useful testing ground, as he explains: "Even in those days the thing I cherished more than anything else was the right source sound – I'm not a sound designer in the sense of sound manipulation. This 'right source' principle carries right through to what we do in DICE nowadays. There are two sides to our production: first, we are fortunate to work with fantastic sound engine technology and accompanying technical sound design talent that totally supports the ethos. Second, we are provided with great source audio and have a finely-attuned selective ear. This encapsulates the DICE approach to game audio – our collective mindset. We're not manipulating as much as people might think. Perhaps if we were making a role-playing game with spells and magic it might be different, but I've always worked with real stuff like cars and guns and soldiers."

When it came to collecting the right source material for weapons, the team were able to take advantage of a quite extraordinary gun wrangling and recording session in LA and Fort Irwin (complete with mocked-up Iraqi village). "I think it's the biggest gun recording ever attempted – a joint venture with the Medal Of Honour team. For two days we had movie guys Jean Paul Fasal and Brian Watkins there with an 80 microphone set-up capturing every weapon sound you can imagine to both computer and analogue tape recorders. We even had people sync-recording in the mountains 5km away. The resulting Pro Tools sessions allow you to create any kind of weapon sound you like, though the portrait of the tail is a constant, which is why we still like to use 'guerrilla'

Strength In Battle

One of Battlefield's obvious strengths is its use of acclaimed dynamic mixing system 'HDR' (high dynamic range) which automatically and 'intelligently' governs playback of the myriad sound triggers occurring in a complex gameplay scene. Just because a 3D sound is calculated as scientifically or theoretically within hearing range of the player's 'listener' position, does not necessarily mean it's appropriate or desirable that it should actually be heard. Context must be considered. In fact, other sound-dense games with a relatively thoughtless mixing methodology have frequently suffered from fatiguing cacophony – 'everything, all the time'. HDR on the other hand can, for example, use a 20dB 'window' which is moving forward in time reacting to sound triggers. A 150dB explosion being triggered will cause the 'window' to pop up to say a 150-130dB range and all sounds below will be culled. As the explosion rolls

Developer/Publisher
DICE/Electronic Arts

The Audio Team

Audio Director
Stefan Strandberg

Sound Design
Bence Pajor
Mari Saastamoinen
Ben Minto
Stefan Strandberg
Olof Strömqvist

Original Music
Mikael Karlsson

Dialogue Direction
Olof Strömqvist

Audio Programming
Jonatan Blomster
Björn Hedberg





off, the window will slide down the dB scale again, according to a tweakable release curve, seeking to highlight the lowest volume sounds. Therefore, if no high volume level sounds occur after the aforementioned explosion, the low level detail of the birds and insects or perhaps the player's movement will appear to come to the foreground of the mix. Strandberg: "HDR mixing is a mixing principle – that's just one example but all values can be set to 'desired' values and customised per setting."

The primary mixing rule-set is coupled with a secondary priority-based group classification. The resulting audio output has a pleasing, distinctive character that is neither cacophonous or tiring on the ear, even given the intense subject matter involved. Rather, Strandberg feels it provides a sense of focus: "Sometimes people confuse it with compression – because it can sound like a side-chained compressor but that's not how it works. It's actually about having fewer sounds play – say four or five at any given moment – but when 'nothing' is happening, we can actually bring up the lower sounds in volume. Then, as a player, you feel you're being fed all these lovely sound details of the world – they're beautiful moments. But as soon as the warfare starts, those sounds are pushed away." Strandberg gives it a 95% rating for success – impressive for an automated system. In other words, it may throw up some oddities now and again but the benefits are overwhelming.

Spartan Benefits

Given the team's desire for mix clarity, it's unsurprising that Strandberg is unequivocal about keeping music use very sparse during Battlefield gameplay itself: "A lot of times I hear full-blown orchestral music playing on top of action scenes in games – I don't know what to listen to. And where is the orchestra coming from? There's a lack of thought and no-one benefits from it – not the sound designers, not the composers, and not the end user. It's just a big mess – if you want music on top of your game you have to be really careful – make sure you leave dynamic room for it."

Also prone to problems in many game titles is speech content. Even now, some teams lurch towards apparently obviously avoidable pitfalls. The DICE team feels its key strengths in achieving good dialogue content are simply to encourage plenty of actor improvisation and group interaction, recording multiple actors together – still not a universally accepted *modus operandi* in games: "With ensemble recording you get a completely different result. We have two excellent full-time voice producers working with us and also from a sonic perspective, we work a lot on analysing the 'outdoors' sound, trying to replicate that in the game – in fact nowadays, we're even recording a lot of Marines actually outdoors. Even if the noise floor is quite heavy it doesn't really matter – when you get it into the game, believability outrules fidelity. Actually you can tell from all of our sound content that this is a guiding principle – in eight out of 10 cases we'll use the sounds that sound real – even if they're of lesser fidelity. We can always pimp them later with extra detail. Sometimes, you hear a sound that just kills everything you've done – or you just want it but it's considered, from a scientific perspective, to be a bad sample in the book of high fidelity nerds – they would never choose it."

"Where do you draw the line? There's clip distortion and then there's distortion... To me, it's like a punk band with a good set

of songs – it doesn't matter that they're recorded 'improperly' – the message is still more vital or it has more energy or more attachment to us humans. I would argue the DICE sound team is like a punk band in many ways..."

"Don't get me wrong – our game sounds great on high fidelity systems – we're audio nerds in many respects. But I really believe in getting your games to sound good on inferior systems like TVs. A lot of people act like their games are going to be played back in THX-certified cinemas but they're never going to be – that sounds obvious to me when I say it, but it's not obvious to a lot of sound designers. The game can sound super-good in their super-balanced studios but that's not the way it's going to be played. We just embrace that fact..."

Playing Better, Sounding Better

With the audio technology and systems having been established for the original Bad Company title, the team had the distinct advantage of concentrating, for the most part, on content. Strandberg: "As with any sequel, we dug deeper, expanding diversity and asset quality. The game plays better than BC1 – both single and multi-

player – and a game that plays better, sounds better. We've gotten out of the audio rooms and worked with other disciplines more collaboratively. For example, if you want to make something louder, sometimes pushing up the volume slider isn't enough. So we went to the FX artists and said, 'Look, the explosions won't feel dangerous if we don't shake the camera,' and in an unusual development, we audio guys ended up controlling the camera shake so we could ensure perfect synchronisation. In fact, not only do we trigger and control the shaking x, y, and z parameters from the audio engine, we also trigger rumbling of the joypad! It's all done subtly but it makes the explosions seem louder – it's like we've got more dimensions to work in."

This 'perception illusion' of audio-driven camera shake and rumble features throughout, in situations ranging from say the fairly obvious instance of a tank drive-by through to more oblique examples like a parachute-opening.

Strandberg: "It really amplifies key moments – with the game's 'Destruction 2.0' you can bring down a whole house and so a couple of seconds before it collapses, you'll hear the building starting to creak and moan and the camera starts shaking and the pad starts rumbling – all in complete sync. It's what creates that, 'I gotta get out of here,' reaction. Audio alone is not as powerful. It's been one of the best things we've ever done and we'll develop it further in future. It's great we had more time to do these things – a year-and-a-half. Last time around we were building a new engine at the same time as making a game which is horrible. We were able to just polish – and when everybody is polishing, what it brings to the product is amazing."

Judging by the reaction in the room at the awards ceremony itself, plus subsequent bulletin board discussion around the world since, the decision to give the BAFTA 'Use Of Audio' award to *Battlefield: Bad Company 2* is evidently a popular one within the wider game audio community. It rightly recognises some exceptional work from the DICE audio team. **AM**



Sonnox Fraunhofer Pro Codec

PAUL MAC gets tuned into the oft-ignored world of quality control in audio codec compression. It seems Sonnox has the right tool for the job.

YOU CAN EXCUSE SO-CALLED EXPERTS on TV gadget and technology shows for calling an iPod an mp3 player, or employing sweeping generalisations about quality in codecs – ignoring the various incarnations, advances, and quality variants in the main AAC and mp3 codec families. After all, gadget programme presenter vetting procedures seem to stretch only to making sure they know which side of the telly they need to look at when the little light comes on, and that they are fluent in Clarkson-speak.

However, there's no excuse for audio production professionals to ignore one of the most significant revolutions in audio delivery since Darwin invented the ear. We can create as many cliques and head-shaking committees to dismiss lossy (and lossless) audio compression as we like, but in the end the responsibility for the quality of your production lies with you, and if the production will be heard mostly on an iPod (other compressed audio file players are available), then it's your job to make sure it sounds good on an iPod. After all, if you check and modify mixes according to soffits, nearfields, NS10s, Auratones, headphones, and hacked radios in surround, stereo, and mono – why wouldn't you mix and master with the aid of popular audio codecs as well?

Hands up who, when doing anything to mp3 or AAC, simply throws the file through iTunes and accepts the result without question or comparison? Maybe it's because, up until now, we haven't had the tools available to fully come to terms with this medium? Well, this might change, because Sonnox and Fraunhofer hope their new joint development effort will allow you to conveniently take the proper time, effort, and corrective measures to ensure and prove codec compatibility... And a few other things as well.

Overview

The Sonnox Fraunhofer Pro Codec plug-in, for Pro Tools, VST, and AU, is nicely laid out, and packs a lot into one plug-in window. Like most, if not all, of the Sonnox plug-ins there is a careful balance struck between a clear, attractive, ergonomic interface, and the need to tell the whole truth – no patronising and no hidden numbers.

The plug-in is split into several distinct areas, with the main central area defaulting to its online encoder state. You can also choose offline encode and decode modes with two tabs at the top of the window, for direct file processing rather than the realtime processing.

I'd already been to a couple of demos of this plug-in before sitting down to review it, so I was at an advantage in terms of operation. I don't think it's particularly tricky

though, and the help 'flyouts' that can be user-disabled or enabled are very helpful. Once you understand the basic layout of the central section, I think everything else falls into place nicely.

Basically, you can load up to five different codec variations into slots below the main metering area. Each of these codecs can be set-up via a floating 'Codecs and settings' box that pops up when you select that slot. The full range of Fraunhofer IIS co-developed codecs is available here, complete with helpful parenthesis: HD-AAC (lossless), AAC LC (low complexity), HE-AAC (high efficiency), HE-AAC v2 (parametric stereo), mp3, mp3 Surround, and mp3 HD (lossless to 16 bits). Available settings vary according to the codec type,

but bit-rate, mode (constant or variable bit rate selections), and quality (processing speed) are the full set of options for the lossy codecs.

Each loaded codec has a record-arm button, a Mon button (direct audition selection), and an over-range indicator for streams that will contain overs when decoded – that way you can do something about this before the

encode with the useful trim adjustments.

Above the codec selections is the metering area. The main view is a basic FFT (dBr) graph, switchable between logarithmic and linear scales. In-meter, the main lines are the input signal and difference views, and you can select individual channels or a sum of them, plus the NMR (Noise to Mask ratio), which shows how well hidden the codec noise is below the perceptual mask. Helpfully, the meter shades vertical red areas when the noise and mask switch places and might cause audible artefact issues.

There's also an alternative meter screen with three lissajous views – Input & Output, Output & Diff, and Diff x 5.

Differently Facilitated

One of the most used buttons on this plug-in I suspect will be the Diff button. Instead of auditioning the result of the encode-decode, you get to listen to the difference between the input signal and the codec – the bits that will be thrown away. What use is this? Well, I found that the difference signal helps to focus your ears on potential areas for interest. For example, I had one mix running through a couple of extremes – a reasonably high bit rate AAC and a pretty basic mp3. The differences in this mix were not as stark I was admittedly expecting, but a quick reference check with the difference signal focused me onto the low-mid region where the mp3 codec seemed to be most heavy handed. Sure enough, the differences between the two became clearer.

But what if it's not clear – what if you end up doubting your own judgment because you've been jumping



“One of the most used buttons on this plug-in I suspect will be the Diff button... you get to listen to the difference between the input signal and the codec – the bits that will be thrown away.”

THE REVIEWER

PAUL MAC is the Editor of *Audio Media* magazine.



have to work out which one. When you think you know, hit Choose after a few goes, simply click Reveal, and find out how you did. The documentation recommends you repeat

the test from 10 to 20 times, then find out your percentage of success. Over 95 percent is, apparently, statistically significant – which means you've still got it.

The usefulness of this section may not be as obvious as other tools in this plug-in. It's true, you don't normally embark on a statistical analysis of every decision you make in the studio, so why start with this? Well, the differences between these codecs nowadays are often tiny, and as noted above, it's easy to enter a cycle of doubt when it comes to quality assessments. Isn't it good to test yourself and your ears now and again? If you're not statistically significant, maybe it's time to go and have that cup of tea?

Personally, I tried a few combinations of A-B X testing and learned quite a lot in a very short time. The overall effect was that I was able to really tune into some very subtle differences between codecs and codec settings – often things that I couldn't pin down simply by switching sources in the more traditional ways.

You can carry this honed perception, specific to the material, with you through an exploration of more codecs and bit rate variations, thus learning more about that material and how it reacts to the compression formats.

There are a number of other details in the plug-in that make your life much easier. A status box lets you know what's going on inside the codec and if, for example, the plug-in has had to use a second codec to produce the audition stream where down-sampling is necessary in the main codec. There are compression ratio, bit stream level meters (for that over-range prevention I mentioned earlier), a total delay indicator, and more.

Once you're happy, you can arm any of the codecs you have loaded for recording to files, and then simply print them with the master record button. In the off line modes, you drag in or browse for files, specify the codec, and allow the software to do its thing. There are a number of options for file naming conventions, so you can keep close control over which

files are encoded with which codecs and so on. Easy.

Fit For Purpose

There are two main ways to approach the Sonnox Fraunhofer Pro Codec. First, you might actually be encoding audio files – you might be a mastering engineer with a client who actually cares about how their audio comes across on the currently most widely used formats around; or indeed anyone charged with producing compressed deliverables. Second, you might be a mix or mastering engineer who wants to make sure that the product will sound fine in whatever format it ends up – rather like checking your mix on different monitors to cover a practical range of domestic outcomes. The very act of adjusting a master track, or even the treatment of individual tracks, in order to accommodate compressed delivery formats is both a learning process and an enlightened approach.

If there were any ways in which this product could be augmented, I'd say that large-scale offline batch processing with settings created in the online mode would be a good place to start. Also, in demos the facility for extensive ID3 metadata editing and template imports has been shown, though it will not be in the initial release version. Maybe this feature won't be too far away? Archiving, games, library work, and so on could all use these kind of workflow helpers.

Either way, the immediacy and detail in the Pro Codec will be of immeasurable benefit to anybody who has, or wants to, put away the old attitude of ignoring the dominance of audio codecs. This plug-in comes without the baggage of anti-codec propaganda. It's absolutely honest. Indeed, the A-B X test tab is the ultimate in honesty. It might dent a few egos, but that's no bad thing. It might also affirm some reputations. Which would be even better.

Conclusion

My limited time with the review copy of the Pro Codec has convinced me that I'd like to spend more time learning about ways to minimise compression artefacts and problems earlier in the production process and during the encoding stage. Few people lose work by knowing too much or having too many tools in their toolbox – or owning the best quality means to a popular end. **AM**

INFORMATION

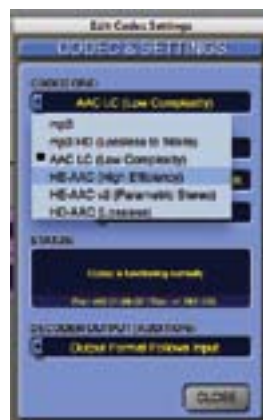
① GB£295.00 (exc.VAT)
 Ⓐ Sonnox Ltd.
 ⑥ www.sonnoxplugins.com

“...the immediacy and detail in the Pro Codec will be of immeasurable benefit to anybody who has, or wants to, put away the old attitude of ignoring the dominance of audio codecs.”

around between codecs and are now no longer sure which way is up? This is where the A-B and A-B X sections can help...

At its simplest, the A-B tab is a convenient way of comparing two codecs, or one codec and the input signal. Simply assign codecs to A or B, and use the A-B button to switch between them – or one codec and the input, if you'd prefer. However, we might still be going round in circles with tiny differences, both real and imagined. The next stage is to do some blind listening. This is achieved with the Hide button, which simply turns off any visual indication of which codec you are listening to, allowing your ears to do the work. In conjunction with this strategy, there is the Both button, which displays the FFTs of both difference signals so you can see which is the most pronounced, and where.

It's the A-B X tab though where things get more serious. This tab is designed to help you check that what you think is going on, really is going on. You select two codecs, then hit the X button. One codec is chosen at random and you



Papa Sangre: Gaming In The Dark

When imagination is the only boundary, and sound the only guide, things can get very interesting indeed, says LISA GEE of a frontier-busting game.

Winner of the Most Innovative Game category at the International Mobile Gaming Awards was *Papa Sangre* – an iPhone game without video. Players navigate through a dark world of binaural sound, headphones on, iPhone (or iPad) held landscape; left thumb, right thumb tapping the bottom half of the screen to walk or run, swiping the top half of the screen left or right to turn.

Nick Ryan – award-winning composer, sound designer, and binaural maven – was responsible for envisioning and creating the game's audio content. He explains the process.

"We wanted the engine to procedurally animate sound in real-time depending on the player's position in space, but didn't, initially, understand how players would move through that space."

So Ryan started by producing some basic video animations in Apple Keynote. These showed an icon rotating around a space, with sound that rotated at the same rate. "We could touch the animation and pretend to move it."

Next, he experimented with 3D sound walk-throughs. These enabled him to identify four distinct species of sound the game required.

The first – footsteps – are fundamental to the game play. Players use them to 'echo-locate' within each of *Papa Sangre's* 25 levels. Every level has a different footstep sound, depending on the size of the room, the floor surface – ice, quicksand, or the bars of a giant xylophone, for instance – and what's on it (e.g., crunchy bleached bones. Yum).

Atmospheres – the second sound species – are stereo sonic loops particular to and constant across each level.

Then there are, in Ryan's words, 'Easter Eggs': sound elements designed to make the game's soundscapes as varied as possible. "These," he explains, "are seemingly random sounds that emerge from the landscape – a creaking floorboard, a burst of steam, or a bird tweeting in a distant tree..."

Finally, there are two kinds of spatialised objects: the tinkling musical notes players collect as they navigate each level and – trying to stop them – a menagerie of gleefully homicidal monsters.

Limitations of time and the iPhone chip's processing power meant 'spacialising' mono source material, which wasn't ideal. The process involves imposing an HRTF (Head Related Transfer Function) on those sounds, which resulted in a loss of some low frequency information. "High frequency detail did yield more believable positioning," says Ryan. "...But creating monsters that lack bass is a bit of a challenge."

Ryan pulled everything together in Logic and recorded or made all *Papa Sangre's* sounds binaurally. For recording, he used a pair of Soundman OKM II in-ear mics (inexpensive



TASCAM
TEAC PROFESSIONAL

A New Generation for Multi-channel Recorders

8 CHANNEL AUDIO RECORDER HS-8

24BIT/192kHz, 48KHz, 24KHz, 12KHz, 6KHz, 3KHz, 1.5KHz, 750Hz, 375Hz, 187.5Hz, 93.75Hz, 46.875Hz, 23.4375Hz, 11.71875Hz, 5.859375Hz, 2.9296875Hz, 1.46484375Hz, 0.732421875Hz, 0.3662109375Hz, 0.18310546875Hz, 0.091552734375Hz, 0.0457763671875Hz, 0.02288818359375Hz, 0.011444091796875Hz, 0.0057220458984375Hz, 0.00286102294921875Hz, 0.001430511474609375Hz, 0.0007152557373046875Hz, 0.00035762786865234375Hz, 0.000178813934326171875Hz, 0.0000894069671630859375Hz, 0.00004470348358154296875Hz, 0.000022351741790771484375Hz, 0.0000111758708953857421875Hz, 0.00000558793544769287109375Hz, 0.000002793967723846435546875Hz, 0.0000013969838619232177734375Hz, 0.00000069849193096160888671875Hz, 0.000000349245965480804443359375Hz, 0.0000001746229827404022216796875Hz, 0.00000008731149137020111083984375Hz, 0.000000043655745685100555419921875Hz, 0.0000000218278728425502777099609375Hz, 0.00000001091393642127513885498046875Hz, 0.000000005456968210637569427490234375Hz, 0.0000000027284841053187847137451171875Hz, 0.00000000136424205265939235687255859375Hz, 0.000000000682121026329696178436279296875Hz, 0.0000000003410605131648480892181396484375Hz, 0.00000000017053025658242404460906982421875Hz, 0.0000000000852651282912120223045349122109375Hz, 0.00000000004263256414560601115226745610546875Hz, 0.000000000021316282072803005576133728052734375Hz, 0.0000000000106581410364015027880668640263671875Hz, 0.0000000000053290705182007513940334320013184375Hz, 0.00000000000266453525910037569701671600065921875Hz, 0.000000000001332267629550187848508358000329609375Hz, 0.0000000000006661338147750939242541790001648046875Hz, 0.00000000000033306690738754696212708950008240234375Hz, 0.000000000000166533453693773481063544750041201171875Hz, 0.0000000000000832667268468867405317723750020600859375Hz, 0.00000000000004163336342344337026588618750103004296875Hz, 0.000000000000020816681711721685132943093750515021484375Hz, 0.0000000000000104083408558608425664715468750257512421875Hz, 0.000000000000005204170427930421283235773437501287562109375Hz, 0.000000000000002602085213965210641617886718750064378046875Hz, 0.0000000000000013010426069826053208089433593750032189234375Hz, 0.00000000000000065052130349130266040447167968750016094671875Hz, 0.000000000000000325260651745651330202235839843750008047359375Hz, 0.0000000000000001626303258728256651011179199218750004023671875Hz, 0.0000000000000000813151629364128325505589599609375000201184375Hz, 0.000000000000000040657581468206416275279479980468750001005921875Hz, 0.00000000000000002032879073410320813763973999023437500005029609375Hz, 0.0000000000000000101643953670516040688198699951171875000025148046875Hz, 0.000000000000000005082197683525802034409934997558593750000125740234375Hz, 0.00000000000000000254109884176290101720496749877929687500000628701171875Hz, 0.0000000000000000012705494208814505086024837493896484375000003143505859375Hz, 0.000000000000000000635274710440725254301241874694824218750000015717529296875Hz, 0.00000000000000000031763735522036262715062093734741210937500000078587646484375Hz, 0.00000000000000000015881867761018131357531046867370605468750000003929382322421875Hz, 0.000000000000000000079409338805090656787655234336853027343750000019646911612109375Hz, 0.0000000000000000000397046694025453283938276171684265136718750000009823458060546875Hz, 0.00000000000000000001985233470127266419691380858421275684375000000049117290302734375Hz, 0.000000000000000000009926167350636332098456904292105378321875000000245586451513671875Hz, 0.00000000000000000000496308367531816604922845214605189161093750000012279322575684375Hz, 0.000000000000000000002481541837659083024614226073025945805468750000061396612878421875Hz, 0.00000000000000000000124077091882954151230711303651277290273437500000306983064392109375Hz, 0.0000000000000000000006203854594147707561535565182563864513671875000001534915321960546875Hz, 0.0000000000000000000003101927297073853780767782591281932256843750000007674576609802734375Hz, 0.00000000000000000000015509636485369268903838912956409661284218750000038372883049013671875Hz, 0.0000000000000000000000775481824268463445191695647820483064210937500001918644152450684375Hz, 0.00000000000000000000003877409121342317225958478239102415321054687500009593220762253421875Hz, 0.000000000000000000000019387045606711586129792391195512076605273437500004796611038113671875Hz, 0.000000000000000000000009693522803355793064896195597756038302636718750000239830551905684375Hz, 0.000000000000000000000004846761401677896532448097798878019151338437500001199162759528421875Hz, 0.0000000000000000000000024233807008389482662240488994390095756692187500005995813797642109375Hz, 0.00000000000000000000000121169035041947413311202444971950478783460937500002997906898821046875Hz, 0.000000000000000000000000605845175209737066556012224859752393917304687500001498953449440546875Hz, 0.0000000000000000000000003029225876048685332780061124298761969586523437500007494767247202734375Hz, 0.000000000000000000000000151461293802434266639003056214938098479326171875000037473836236113671875Hz, 0.000000000000000000000000075730646901221713319500153107469049239663085937500001873691811805684375Hz, 0.00000000000000000000000003786532345061085665975007655373452461983154296875000009368459059028421875Hz, 0.0000000000000000000000000189326617253054283298750382768672630994157214843750000046842295295142109375Hz, 0.000000000000000000000000009466330862652714164937519138433631549707885742187500000234211476475571046875Hz, 0.0000000000000000000000000047331654313263570824687595692167177485389428710937500000117105738237785546875Hz, 0.000000000000000000000000002366582715663178541234375478460835887424471942593750000058552869118892734375Hz, 0.000000000000000000000000001183291357831589272617187739230417943722235971296875000002927643455944609375Hz, 0.000000000000000000000000000591645678915794636308593869615208971861117985648437500000146382172797223421875Hz, 0.0000000000000000000000000002958228394578973181542969348076044859305589928242187500000731910863986113671875Hz, 0.000000000000000000000000000147911419728948659077148467403802242965279496412109375000003659554319930684375Hz, 0.00000000000000000000000000007395570986447432953857423370190112148263974820605468750000018297771599653421875Hz, 0.0000000000000000000000000000369778549322371647692871168509505607413198741030273437500000091488857998267109375Hz, 0.000000000000000000000000000018488927466118582384643558425475280370659937051513671875000000457244289991335546875Hz, 0.0000000000000000000000000000092444637330592911923221777127376401853299685257568437500000022862214499566772734375Hz, 0.000000000000000000000000000004622231866529645596161088856368820092664984262878421875000000114311072497833863671875Hz, 0.000000000000000000000000000002311115933264822798080544428184410046332492131439210937500000057155536248916693421875Hz, 0.00000000000000000000000000000115555796663241139904027221409220502316624606571960546875000002857776812445834609375Hz, 0.0000000000000000000000000000005777789833162056995201361070461025115831230328598027343750000014288884062229173046875Hz, 0.000000000000000000000000000000288889491658102849760068053523051257915561516429901367187500000071444420311145865234375Hz, 0.000000000000000000000000000000144444745829051424880034026761525628957780758214950684375000000357222101555729326171875Hz, 0.0000000000000000000000000000000722223729145257124440017013307628144788903791074753421875000001786110507778646630859375Hz, 0.00000000000000000000000000000003611118645726285622200085066538140723944518955373767109375000000893055253889323315296875Hz, 0.000000000000000000000000000000018055593228631428111000425332690703619722594776868835546875000004465276269446616576484375Hz, 0.00000000000000000000000000000000902779661431571405550021266634535180986129738843441772343750000022326381347233082882421875Hz, 0.000000000000000000000000000000004513898307157857027750106333172675904930648694217208861718750000011163190673616541144109375Hz, 0.0000000000000000000000000000000022569491535789285138750531665863379524653243471086044308593750000055815953368082705720546875Hz, 0.00000000000000000000000000000000112847457678946425693752658329316897623266217355430221542968750000027907976684041352862734375Hz, 0.0000000000000000000000000000000005642372883947321284687632916465844881163310867771711077148437500000139539883420206761413671875Hz, 0.0000000000000000000000000000000002821186441973660642343816458232922440581655433885855538574218750000006976994171010338070684375Hz, 0.00000000000000000000000000000000014105932209868303211719082291164612202908277169429277692871093750000003488497085505169035421875Hz, 0.000000000000000000000000000000000070529661049341516058595411455823061014541385847146388464375000000174424854275258495177109375Hz, 0.0000000000000000000000000000000000352648305246707580292977057279115305072706929235731942321875000000872124271376292495885546875Hz, 0.00000000000000000000000000000000001763241526233537901464885286395576525363534646178659711609375000000436062135688146249427734375Hz, 0.000000000000000000000000000000000008816207631167689507324426431977882626817673230893298558046875000002180310678440731249738671875Hz, 0.0000000000000000000000000000000000044081038155838447536622132159889413134088366154466492790234375000001090155339220365624986884375Hz, 0.0000000000000000000000000000000000022040519077919223768311066079944706567044183077233246395117187500000054507766961018281249434421875Hz, 0.00000000000000000000000000000000000110202595389596118841555330399723532835220915386166231975585937500000272538834805091406247172109375Hz, 0.00000000000000000000000000000000000055101297694798059420777765199861766417610457693083311987792968750000013626941740254572031235859375Hz, 0.000000000000000000000000000000000000275506488473990297103888825999308832088052288465416559938964843750000006813470870127286015679296875Hz, 0.0000000000000000000000000000000000001377532442369951485519444129996544160440261442327082799694824218750000003406735435063640078396484375Hz, 0.00000000000000000000000000000000000006887662211849757427597220649982720802201307211635413998474121093750000001703367717531820003919824609375Hz, 0.000000000000000000000000000000000000034438311059248787137986103249913604011006536058177069992370605468750000008516838587659100019599123046875Hz, 0.00000000000000000000000000000000000001721915552962439356899305162495680200550326802908853499618530273437500000042584192938295500097995615234375Hz, 0.00000000000000000000000000000000000000860957776481219678449652581247790100275163401454426749809265136718750000002129209646914775000489978076171875Hz, 0.000000000000000000000000000000000000004304788882406098392248262906238950501375817007272133749046325684375000000106460482345738750012499890380859375Hz, 0.000000000000000000000000000000000000002152394441203049196124131453119475250687908503636066874523162842187500000053230241172868750006249944704296875Hz, 0.000000000000000000000000000000000000001076197220601524598062065726559737625343954251818033437261581421093750000002661512058643437500031249723521484375Hz, 0.00000000000000000000000000000000000000053809861030076229903103286327986881266719727059091671863079071046875000000133075602932171875000156248617607234375Hz, 0.0000000000000000000000000000000000000002690493051503811495155164316399344063355986352954583593153953552343750000006653780146608593750007812430880361



**PRO
SERIES**
LIVE AUDIO SYSTEMS

For those who
refuse to
compromise



- ⊗ Midas sound – often imitated, never equalled
- ⊗ Sample-synchronous audio quality – all audio time and phase coherent
- ⊗ Daylight-viewable display screens
- ⊗ 192 channel bi-directional snake included
- ⊗ Up to 288 inputs and 294 outputs patched and routed on a scene-by-scene basis
- ⊗ IEM-safe low and deterministic latency
- ⊗ Remote, modular processing engine
- ⊗ "Area II" for those must-have-all-the-time inputs
- ⊗ Flexible and Expandable

MIDAS
DESIGNED FOR A PURE PERFORMANCE
www.midasconsoles.com

Production Report

- and functional), a B&K 4128 dummy head, and a Neumann KU100 dummy head kindly lent by Sennheiser UK.

"The Neumann's microphone capsules are amazing. Also, the head is average-sized, which means that the binaural effect should work for most people. On the downside, it's heavy, fragile, and very expensive."

Time For More?

Ryan made other sounds by re-recording and layering commercially-available effects. He started out playing them through a single Genelec 1029a speaker, which he moved round the Neumann head. This was effective, but finicky and time-consuming.

"So I switched to plug-ins: Wave Arts' Panorama 5 – which creates believable three dimensional position information and has

reverb and binaural early reflection modelling – is brilliant. Often if you add reverb to binaural sounds, it can lessen the effects, because it's unrelated to the positional information. Also, all the parameters are automatable and you can record the automation."

That was the biggest advantage of using plug-ins. "I could copy the automation for moving one layer to the others, ensuring they all coincided. Or replace one sound with a better one without losing the panning information."

Mixing was challenging. "I wanted the game to have big dynamic and spectral ranges. I had to assume people would listen to it in noisy places and they needed to be able to hear everything. So it had to be loud. Matching levels for different assets was hard. We ended up outputting everything into one folder, then batch-processing all the files at different levels of gain.



Nick Ryan.

When we imported the sounds into the game, we went through a balancing process and if one element was too loud, we just grabbed a quieter version."

Ryan mastered with Waves L2 Ultramaximizer and Izotope Ozone on the output with the Waves LoAir plugin and a bit of Maxxbase. "I used widening plug-ins too: Waves Imager and Waves Shuffler to make things sound more 3D."

The cut scenes – the audio between levels – were mastered to -1dBfs to give the engine headroom. Because footsteps always play over an atmosphere, in-game scenes are quieter to compensate for combined gain.

Ryan used impulse response reverbs: Apple's Logicpro Space Designer, "which was brilliant. And I couldn't have lived without Audioease's Altverb. There's something about impulse response reverbs that is more immersive and works much better with real binaural assets than normal reverbs."

During play, the sound in Papa Sangre is generated by a bespoke engine built using the C++ software framework CSL (Create Signal Library) and Objective C. "It allows us to spatialise up to three sounds around the listener and have other sounds playing at the same time". Every game level was constructed from 1x1 floor tiles: each of which was used to trigger the relevant sound(s).

An Unlimited World

"Making *Papa Sangre* audio only," says Ryan, "gives each player a completely unique experience. The only limits to how horrifying or beautiful the game's world is, are those of an individual player's imagination. So it's got the best graphics of any game, ever. The downside is that I've made effects that sounded, to me, like particular things, but to other people sounded like something else. And when you're dealing with a game in which people need to understand where they are, it gets very interesting if everyone thinks they're somewhere different..." 

Papa Sangre
www.papasangre.com





"Phat and totally essential"

Pete Tong & Paul Rogers

The only interface
for the job

When looking for a high quality I/O solution there is only one choice.

Orpheus provides Prism Sound's world renowned performance, sound quality and state-of-the-art clock technology in a dedicated FireWire unit compatible with both Windows and MAC OS X.

Orpheus features line, microphone and instrument inputs, selectable RIAA Equalization for turntables, a built-in premium-quality monitoring mixer and concurrent ADAT and switchable S/PDIF or AES3 digital I/O plus support for outboard MIDI devices. The Microphone inputs include MS matrix processing and dual headphone outputs are provided each with their own volume control.

ORPHEUS

Professional FireWire
audio interface





Contact us now to arrange YOUR Orpheus demo.

sales@prismsound.com www.prismsound.com
UK +44 (0)1353 648888 USA +1 973 983 9577

UNITY AUDIO LTD



*THE ROCK-ACTIVE
NEARFIELD MONITOR*



*TELEFUNKEN ELAM 251
VALVE MICROPHONE*

*CLOUD JRS-34 ACTIVE
RIBBON MICROPHONE*



*EARTHWORKS
PM40T PIANO MIC*

*BURL B80 MOTHERSHIP MODULAR
DIGITAL CONVERTOR*



*EARTHWORKS DK25L
DRUM MICROPHONE SET*



*THERMIONIC CULTURE ROOSTER
PRE-AMP EQ DISTORTION*

*THERMIONIC CULTURE
FAT BUSTARD SUMMING MIXER*



*CHANDLER CURVE BENDER
MASTERING EQ*

*KUSH AUDIO UBK
FATSO COMPRESSOR*



*KUSH AUDIO CLARIPHONIC
PARALLEL EQ*



*500 SERIES MODULES FROM BURL, CHANDLER, ELYSIA,
GREAT RIVER & LITTLE LABS*

THE VERY BEST IN PRO AUDIO PRODUCTS DISTRIBUTED BY  AUDIO LTD

01440 785843 | SALES@UNITYAUDIO.CO.UK

WWW.UNITYAUDIO.CO.UK | WWW.THERMIONICCULTURE.CO.UK | WWW.UNITYAUDIOPRODUCTS.CO.UK

Waves OneKnob

With a simple interface, the Waves OneKnob multi-tasks effectively, providing a distinct, fuss-free sound, says
STEPHEN BENNETT.

ISRAELI SOFTWARE COMPANY WAVES was arguably the first company to make professional engineers sit up and take computer-based audio software plug-ins seriously. I remember the positive impressions that the TDM-based C1 Compressor and Q10 equaliser made when first hearing them on my old Pro Tools III rig – and the impact that the L1 UltraMaximizer has had on the sound of modern music, for good or ill, cannot be overstated.

Waves has continued to develop its plug-ins for both DSP-based and Native systems, splitting its development between innovative new ways of mangling audio and recreations of classic hardware. The company has occasionally stumbled into the dark with labyrinthine purchase and authorisation procedures – understandable as the company's desirable product has been much cracked – but it has now settled down with a sensible iLok-based system that is both easy to understand and which protects the assets of both company and user.

While Waves plug-ins have often been offered as bundles, the OneKnob series is an unusual step for the company and in some ways harks back to the simple operational principles that made products such as the aforementioned UltraMaximizer and the Renaissance series such a joy to use.

Download, Installation & Purchase

You'll need a valid iLok account to authorise and run the OneKnob plug-ins, and you'll also need to create a Waves online account before you can download the installer from the Waves website. This, when run, allows you to select and drop the Waves plug-in files you've actually bought on to your hard drive – in this case it'll be the OneKnob series, of course. Once these files are on your computer, the actual installation begins. OneKnob plug-ins are available in RTAS, AU, and VST formats for the Mac, and VST and RTAS when installed under Windows and are, at time of writing, running under version 8 of Waves' usual Waveshell system. An uninstall application is also usefully copied to your hard drive.

Though the plug-ins can be purchased at a 'one-off' price individually, or as a bundle, you can also take advantage of the Waves update plan that enables various upgrade discounts and iLok and other software protection options, or choose one of its rental schemes.

The test machines for this review were a 2007 vintage Apple Macbook Pro 2.2GHz and a 2010 2.8 GHz Mac Pro, both running OSX 10.6 Snow Leopard.

Knobs Galore

Once installed, you're presented with a suite of seven OneKnob plug-ins all with, as you'd expect from the software's name, a similar uni-knobby interface. Waves suggests that you use the plug-ins on Tracks rather than Auxes – though there's no reason not to do so if you wish.

The plug-ins feature internal 64 bit floating point processing, so there's little chance of clipping when instanced on tracks. The plug-ins all feature the Waves Toolbar, which sport an 'About' icon, a Setup A/B toggle, which allows you to compare two groups of settings, Preset Load and Save buttons, and a '?' icon which, when clicked, loads the relevant PDF manual.

Double clicking on the lone knob reveals a text box where you can type in a number rather than using the mouse to adjust the value – which can also, of course, be controlled by your DAW's MIDI controller facilities. I always find turning an on-screen knob using a mouse counter-intuitive and personally, I'd have preferred a 'OneFader' interface – though that may have upset Wave's marketing department! But the OneKnobs make a good stab at positional repeatability and the mouse placement doesn't send the control flying off to random positions like some of the software knobs I could mention.

The plug-ins are not currently 64-bit native on OSX or Windows – on the Mac that could be partly because of iLok's tardiness in readying itself in this area, but Waves says that the company is working through its extensive

THE REVIEWER

STEPHEN BENNETT has been involved in music production for over 25 years. Now based in Norwich he splits his time between writing books and articles on music technology, running his own Chaos studios and working in the Electroacoustic Studios in the School of Music at the University of East Anglia. He's also a filmmaker with several music videos and short films to his credit. www.stephenjamesbennett.co.uk



Fig 1: Brighter on highs.



Fig 2: Phatter lows.

- ▶ range of products to eventually make them fully 64-bit compatible. It's worth checking the Waves website to see if there are any issues in using your particular DAW-based 64- to 32-bit plug-in solution, but the OneKnobs worked flawlessly for me under Apple's Logic 9.1.3 and its rather creaky 32-bit bridge. While running under the resolutely 32-bit Pro Tools 9, the plug-ins didn't falter once – in fact they took whatever I threw at them without complaint over the test period.

The Knobs In Action

Brighter: Makes things brighter. Enough said. Waves says that it 'adds brightness from the midrange up' and it certainly seems to do that, but it also has a little of a feel of an aural exciter too, adding air and definition to vocals and guitars without piling on too much harshness or sibilance – though it will add both to the wrong source, of course. Fig 1 shows roughly the frequency where the boost starts to take effect.

Phatter: I wanted to hate this as I usually want to throw anything that has 'phat' in its name out of the window, but it really does do what it says on the knob extremely well. It's a low/low mid bass frequency booster that tends to distortion if you add too much. Sonically, it reminds me very much of Waves' Renaissance Bass plug-in – which leads me to wonder how much of Waves' existing technology underlies these new lean interfaces. Fig 2 shows whereabouts the low frequency enhancements start to take effect.

Driver: This is a distortion plug-in, and like all distortion effects it's going to be great on something that it flatters and ear-wrenchingly horrible on something that it doesn't. It's a nice extra to have, but if it wasn't part of the suite I wouldn't miss it. In my opinion, most DAWs have better amp/distortion effects these days and

the best use I found was in conjunction with a telephone EQ effect on vocals – and it was okay when using a small amount on some parallel drum bussing. I wasn't enamoured with Driver, though your mileage may vary.

Wetter: This had me flummoxed for a while (RTFM!) but it's actually quite a clever idea – the different knob positions add various combinations of types and depths of ambience. Just find one that suits your audio and you're done. Wetter won't work in every situation, but if you find an audio and knob position combination that sounds right, it'll sound really nice. I've always been a fan of Waves' Ambience plug-ins since Truverb, and Wetter doesn't disappoint in quality either.

Louder: This again does what it says on the virtual tin – makes things louder when you turn up the knob via a combination of peak limiting, compression, and automatic gain compensation. I wouldn't use this in the same way I'd use the L1 – for maximising when mastering – as it's too coloured for that, but the pumping you get as you turn up the knob really adds energy to audio. It was really nice on electric guitar, drums, and vocals, and it adds up to 24dB of gain too – which is pretty useful in these 'record everything at -20dB at 24-bit' days.

Pressure: Pressure is like Louder's evil, bigger, smellier twin. It's the first of the suite to deviate from the single knob paradigm in that there's a toggle that switches through Pad, Unity, or Boost settings to help match the gain of the input source. You just turn it up for more compression, more pumping, more energy. This was my favourite plug-in – everything sounded better when I instanced Pressure and it was so CPU light I was tempted to use it on every Track. Even string quartets.

Filter: Filter again has a toggle button, but this one swaps between several resonance settings. This poses a problem though, as you can't use automation to sweep the resonance as you could with a more traditional filter plug-in, making it really more akin to a nice sounding EQ. And it does sound really good and smooth, allowing you to completely remove the audio by using only the knob on its lowest setting. I can see it getting a lot of use in dance and electronic music – a decade ago you'd have paid an arm and a leg for a filter that sounds like this. It'd be better with a continuous resonance control though!

Knobby Issues

The latter two plug-ins, with their extra toggle controls, pose the question as to why others in the suite don't also feature some extra parameters. Perhaps Driver could have a filter? Or Brighter a cut-off? Or Wetter an effect balance knob?

Or maybe they could all have several more controls for more flexibility – no, wait, that's feature-creep. Therein lies the conundrum that must have faced the team developing OneKnob; several of the plug-ins would definitely be improved by extra controls – though this would, of course, destroy the elegance and simplicity of the interface. But then again, having toggles on Filter and Pressure already means that these are moving the plug-ins away from the intended 'one control' simplicity, so why stop there? Only Waves truly knows.

I'll be interested to see what updates Waves brings in after users have been using the plug-ins for a while. Personally, I'd have also liked to see a tape saturation type of plug-in – which would perfectly suit the OneKnob 'turn it up for more effect' paradigm.

Conclusion

I do wonder whether the word 'knob' has exactly the same connotations in the US as it does in the UK? But on mentioning that I was reviewing this package to my colleagues, the expected and predictable double entendres and innuendoes came flying in fast and thick. It's possible that the name, coupled with the simple interface, could cause casual observers to wonder how serious a product the OneKnob bundle is. Then they might also then balk at the price of the package, for those very reasons. This would be a pity, as what the company has created here is an extremely useful suite of tools that gets several jobs done in an unfussy fashion, at high fidelity, and at low CPU cost.

So why would you use these instead of your 'to go' plug-ins? Well, apart from their obvious ergonomic advantages (especially in a live/recording situation) they also have a 'sound' – and a very nice one at that. None of these plug-ins will make your audio sound worse and, if used in the right context, will usually make it sound considerably better. **AW**

INFORMATION

📞 US\$320.00 (exc.tax) – OneKnob Series Native

🏢 Waves Inc.

📞 +1 865 909 9200

🌐 www.waves.com

🏢 UK Distributor: Sonic Distribution

📞 +44 (0)845 500 2 500

🌐 www.sonic-distribution.com



Universal Audio UAD-2 Satellite

SIMON TILLBROOK revs up the latest UAD-powered turbo charger for your DAW. Is it a screamer or a steamer?

I HAVE BEEN A VERY LONG TIME USER of Universal Audio equipment and, like many, I find that the vast majority of sessions that I am involved with use a piece of this company's fabulous range of hardware units at some point during the process.

The move into software emulation of many classic pieces of studio processing equipment with the series of UAD Powered Plug-ins, via Universal Audio's UAD DSP Accelerator cards, has proven to be very successful. First came the UAD-1 and then UAD-2 PCIe cards, and an Expresscard option for laptops providing either one, two, or four DSP chips.

Of course, unless you had the appropriately specified computer system, you were denied access to this range of plug-in emulations, but now Universal Audio has introduced a number of DSP Accelerator card options mounted in a stand-alone box for connection to your system via FireWire – the UAD-2 Satellite system.

Overview

The Universal Audio UAD-2 Satellite is an external, slim, rectangular silver housing six inches wide, eight inches long, and an inch thick that will either contain the Duo card with two SHARC processors, or the Quad with four SHARC processors. Connection of the Universal Audio UAD-2 Satellite to your host computer can be either by FireWire 400 or 800. The rear of the UAD-2 Satellite has two FireWire 800 ports and a single FireWire 400.

Currently only OSX Snow Leopard-compatible, Satellite offers support for both 32- and 64-bit modes, along with sample rates of 44.1, 48, 88.2, 96, 176.4, and 192kHz. Plug-in formats supported are VST, AU, and RTAS.

There is a centrally mounted Link LED that lets you know by a constant green light that the UAD-2 Satellite is synced to your host system, or flashes red and green when sync has not been achieved.

Retail-wise, you basically purchase either the Duo or the Quad with different plug-in sets and vouchers for purchase of additional plug-ins from the Universal Audio plug-in store on its website.

All the Universal Audio UAD-2 Satellite options are supplied with the Analog Classics set, which includes the LA-2A Classic Audio Leveler, 1176LN/1176SE Classic Limiting

Amplifiers, Pultec EQP-1A, and RealVerb Pro.

The basic Universal Audio UAD-2 Satellite Duo or Quad system comes with a US\$50 voucher for additional plug-ins. The Duo or Quad Flexi comes with a voucher with a US\$500 value, and the Duo or Quad Omni is supplied with all UAD-2 plug-ins up to V5.7.

In addition, those who already own TC Electronic Powercore can get an extremely good deal (backed by both TC and UA, since TC ceased development on the Powercore platform). Until June this year, you can exchange your Powercore serial number for a bonus bundle of plug-ins worth up to US\$1300 (depending on the UA product you buy).

Software

The Universal Audio UAD-2 Satellite is supplied with a disk that contains all of the UAD-2 plug-in installers, manuals, and the UAD Meter and control panel – a utility program used to control and check the status of the system.

The set of meters that initially comes up when launched locates the UAD-2 Satellite and any other UAD cards that are part of your system and lists them in order with four basic meters for each. DSP shows how much of the UAD-2 DSP is in use; PGM indicates in use on-chip memory (each UAD plug-in uses the on-board memory to some extent); MEM shows how much of the UAD memory is available (principally used by plug-ins such as delay and reverb); and the final meter is FBW (FireWire Bandwidth), which indicates how much of the FireWire buss is available to the UAD-2 Satellite and used by other applications on the buss. All these meters use percentage units.

Accessed from this small meter display is a dropdown menu that gets us into the real control areas for the Universal Audio UAD-2 Satellite.

Tabs along the top of the window let you select one of five options. The last of these is labelled 'Help', and from here you can access manuals, updates, and authorisations for your UAD-2 plug-ins.

The first selection is System Info and gives us a list and spec of all UAD cards that are part of the system with the plug-in latency for each card type calculated based on your I/O buffer size and sample rate.

The next selection, Plug-Ins, lists all the UAD-2 plug-

THE REVIEWER

SIMON TILLBROOK is the Principal Music Tutor at Islington Music Workshop in London. The rest of his time is spent as a freelance engineer, mainly in the USA.

New Additions

Amongst the newest plug-ins to join the Universal Audio list of UAD-2 plug-ins is the Studer A800. This emulation of the classic Studer A800 MK3 studio workhorse two-inch 24-track machine offers up a fabulous number of controls over your sound. Not only can you control tape speed between 7.5, 15 and 30ips, but you can select between popular tape formulations 3M 250, Ampex/Quantegy 456 and GP9, and BASF 911.

The best part is that you can really get under the hood and adjust the alignment to quite a degree. For those familiar with such a procedure, the interface perfectly reflects the original multi-card adjustments found in the draw sets under the transport.

Unlike the real thing, you can open multiple instances across your session and have different setups on a track-by-track basis.

This Studer A800 plug-in is very close indeed to the sound of the original machine. Universal Audio has done a great job with this. If you have the means to compare (as I did) you will be very impressed.

Also joining the available plug-ins for UAD-2 are the SSL E Series channel strip and buss compressor.

The SSL E Series channel strip offers a few additional functions from later SSL revisions of the console, these being seen within the dynamics section of the strip. You also get the choice between either the brown or black knob equaliser.

The buss compressor is an exact function-for-function offering and includes the autofade from the console's master section.

I have used and enjoyed a number of emulations of the SSL 4000 console and feel that this particular version from Universal Audio is the closest I have heard when it comes to delivering the feel of the 4K. The equaliser curves are spot on to the original, and the buss compressor gives that familiar result of pulling the mix together and tightening the lower frequencies.

Another recent addition is the EP-34 Tape Echo plug-in. This is a plug-in that takes the combined features of the Echoplex EP-3 and EP-4 Tape Echo units and adds in a few digital facilities to complete the package.

I am a huge fan of tape echo devices with the simplicity of control and the wild and unusual sounds that can be achieved with them.

The EP-34 supplies all of this with the familiar interface of sliding record head and echo repeat control that quickly leads into self-oscillation. The sound of the EP-34 is excellent, as expected, with all of the nuances of tape echo faithfully reproduced.

The most recent announcements have been the introduction of a Lexicon 224 reverb plug-in for the UAD system (available imminently), and a Brainworx collaborated plug-in, the Brainworx bx_digital V2 & SPL Vitalizer. UA is also working with SPL and Brainworx on further future offerings...

The Universal Audio UAD-2 plug-in range offers some mouth-watering options that deliver superbly authentic results throughout.

Satellite In Use

I know from both my own and my colleagues' experience that UAD plug-ins are somewhat DSP heavy – the price of this kind of quality emulation.

System resource management was going to be an issue that would concern most, so this was an area I focused on using the Universal Audio UAD-2 Satellite with both Macbook Pro and iMac systems.

These systems have a single Firewire 800 port, so I kept the Universal Audio UAD-2 Satellite first in line and varied other components in the chain. There are a number of Firewire repeaters that Universal Audio recommends for use in systems utilising a number of Firewire devices.

I think it's fair to state that these plug-ins will see use during mixdown rather than any kind of recording scenario. There is a 512 sample buffer minimum, but rumours of this dropping to 128 in later software revisions are floating around.

I used the Universal Audio UAD-2 Satellite with Pro Tools 9 on both setups. The UAD plug-ins appear as wrapped plug-ins in the list on this type of system. With the Universal Audio UAD-2 Satellite first in the Firewire chain, I experienced no real issues with latency and was able to control and compensate within limits without problems. I was very pleasantly surprised as I did expect this to be an issue to some extent.

The UAD Meter and Control Panel software is very informative and makes control of the system resources very easy with great visual feedback of what levels of use and availability are there. There is an option to keep this meter on top to keep an eye on the resources – a simple thing, often neglected.

The quality of UAD-2 plug-ins is really quite exceptional. The process Universal Audio goes through to get to this level is clearly reflected in the results. UA enjoys manufacturer involvement and access to 'golden' units to allow for accurate detailed modelling.

Daisy chaining a second Universal Audio UAD-2 Satellite is not currently possible, although Universal Audio is 'actively working to improve performance on multiple Satellite units'.

Conclusion

With the Universal Audio UAD-2 Satellite, the array of fabulous UAD-2 plug-ins are now available to a significantly wider range of users both studio bound and mobile. The Universal Audio UAD-2 Satellite performs just as well as the PCIe version when system resources are looked after and monitored.

INFORMATION

① UAD2 Satellite Duo: GB£774.17, UAD2 Satellite Duo Flexi: GB£1024.17, UAD2 Satellite Quad: GB£1290.83, UAD2 Satellite Quad Flexi: GB£1540.83, UAD2 Satellite Quad Omni 5:7: GB£3832.50 (all prices exc.VAT)

② Universal Audio Inc.
③ www.uaudio.com

④ UK Distributor: Source Distribution (HHB), Unit 6, Pembroke Buildings, Cumberland House Business Park, London, NW10 6RE
⑤ +44 (0) 208 962 5080
⑥ www.hhb.co.uk
⑦ sales@sourcedistribution.co.uk



► ins available with their status. This can be either an authorised, unauthorised, or demo status. From this window you can also purchase and authorise as you wish.

Configuration has a number of global settings to align with your host system and DAW of choice to manage resources more specifically.

The last selection we have with the Universal Audio UAD-2 Satellite UAD Control Panel interface is Firewire. This very informative panel shows our current target and link speed along the bandwidth allocated to the UAD-2. Based upon this and sample rate settings we are given an indication of the number of plug-in instances that can be run in stereo.

Plug-in Update

Universal Audio has an extensive and ever growing range of plug-ins for use with its UAD Accelerator cards.

These are predominantly emulations of classic, highly desirable, and unusual dynamic processors and special effects.

The process that Universal Audio goes through to make sure that its emulations resemble the original units much closer than competitors' is a lengthy and detailed affair. According to UA, this involves cherry-picking the finest examples of the processor. It goes through a detailed analytical series of tests to model the unit so it works throughout its full operational range, delivering however subtle or extreme.

The selection of UAD-2 plug-ins available reads like a fantasy studio wish list. In different categories, we have a series of mastering plug-ins developed by Universal Audio in the form of the Precision series, which includes a multi-band compressor, equalizer, and limiter.

There are the Manley Massive Passive, Trident A-Range, Neve 31102 and 31102SE equalisers and compressors, dbx 160, and Fairchild 670. A wide range of special effects, such as the Roland Dimension D Chorus, Boss CE-1 Chorus, Cooper Time Cube MkII Delay, and the Roland RE-201 Space Echo show the eclectic array offered.

When it comes to reverbs, a couple of my all time favourites are here – the EMT 140 and 250.

Console channel strip and section emulations come in the form of the Neve Classic Console bundle and 88RS Channel Strip.

There are some Universal Audio UAD-2 plug-ins that are not category specific processors. In this collection, we have the FATSO Jr and Sr analogue tape simulator and compressor, Precision De-Esser, Little Labs IBP Phase alignment tool, and the Moog Multimode Filter and Filter SE.

Electro-Voice RE320

E-V's updated version of the venerable RE20 is a certifiable rockin' hit, says ROB TAVAGLIONE.

THE ELECTRO-VOICE (E-V) RE20 IS A MUST-KNOW MICROPHONE for every audio professional. After all, nearly every broadcaster in America owns between two and twenty. They are regularly placed in front of kick drums, bass and guitar cabs, not to mention the majority of radio/TV announcers. As a matter of fact, the RE20 could arguably be one of the most popular microphones ever, neck-and-neck with the ubiquitous Shure SM57.

Thus, we will review the RE20's modern update, the E-V RE320, in a purely comparative manner, to help you decide if it's right for you and your own applications. For an even broader perspective, let's also throw in real world comparisons with its sibling microphone, the E-V RE27.

Features

Aesthetically, the RE320 looks very much like an RE20 – featuring that striking, classic vented chassis – with an updated look due to its black gloss finish. As in the E-V RE27, neodymium magnets are present, though high-pass filters – present in the RE20 and RE27 – are not. Another significant difference of the RE320 is its selectable EQ filter voiced for kick drum miking, which offers a low-mid frequency scoop.

THE REVIEWER

ROB TAVAGLIONE owns and operates Catalyst Recording in Charlotte NC.

In Use

I first tried the RE320 in a live environment, inside a number of kick drums at a Charlotte rock club, with filter engaged. Its performance in a word? Punch. The RE320

translated a lean bottom, plenty of high-mid bass drum shell tone, and a well defined "thwack." The venue's FOH Engineer said

"Onstage, the monitors loved it; my bi-amped monitor rig there is huge, and the RE320's absence of flab way down low made for the tightest, punchiest on-stage kick that I can recall."

he liked it, as it offered "more highs than a Beta 52." Onstage, the monitors loved it; my bi-amped monitor rig there is huge, and the RE320's absence of flab way down low made for the tightest, punchiest on-stage kick that I can recall.

In the studio, I found the RE320 to have a sonic signature best suited for rock recording, where higher-end note definition is arguably as crucial as thump and fundamental. In order to create audio clips for my evaluation, I placed the RE320 inside a 22-inch Pork Pie kick drum (with damping rings on heads, but no pillows or blankets inside), but obviously no other mic could fit through the resonant head's small hole. I did sneak in a Shure Beta 91 (also a favourite for rock kick), placing it in the bottom centre of the drum, for less than coincidence, but very usable, placement. In webclips 1A & 1B, the additional bottom and sculpted mids from the RE320 is notable,

while the Beta 91 offers pronounced top.

On loud electric guitar, the RE320 does a fine job; it offers more bottom than a SM57, less high-mids, and



THE Buyer's Guides for Professional Audio

All you need to know for Monitors, Microphones, Recorders, Consoles and Live Sound.
All available to download as PDF's from our website

Call now to be included in the next Guide
call Graham Kirk on +44 (0) 1480 461555 g.kirk@audiomedia.com
www.audiomedia.com

► more muscle through the low mids. High SPL is no problem for the RE320 and, to my ears, it seems more faithful than coloured in direct comparison to the SM57. Where one might normally use a Sennheiser MD 421 on guitar, the RE320 will excel with more flatness and more excitement. Understandably, the kick drum filter was all wrong on this app, as it removed precious tone.

For a broadcasting applications test, I pulled in the big guns. With the help of on-air personality Divakar Shukla and station engineer Dave Mitchell, we ran the RE320 through a gamut of broadcast tests at the 100kW WEND FM in Charlotte. To evaluate, the RE320 and an RE20 were placed three inches from each other and three inches from Divakar: in an equilateral triangle, directly on-axis, with no pop filters employed. Technically "improper" (as most announcers angle themselves across the mic head, preventing plosives and excessive mouth noise), this placement was required for accuracy in evaluation; some popping Ps may also be informative about the mics' plosive performances.

We found the RE320 to have a little more bottom than an RE20, with some scooping at 300 to 800 Hz and nearly the same top end (RE320 and RE20, webclips 2A & 2B, respectively). Divakar and Dave loved the RE320 and became further enthused when they heard the RE320 with the kick filter engaged (webclip 3A) in direct comparison to the RE20 (webclip 3B). Both commented how the RE320 with filter sounded more finished, "as if we had our usual processing turned on," they said; the webclips bring with no compression, no processing, and no EQ.

Compared to the RE27 (with a hotter output than the RE20 or RE320), the RE20 has less top end and flatter mids; the RE320 sounded a lot like a RE27, at least with its kick filter engaged. Nonetheless, Divakar and Dave still ultimately preferred the RE320 with kick filter over the RE27, citing its "fullness and warmth," further revealed in webclips 4A (RE320) and 4B (RE27) as well as webclips 5A (RE320 with filter) and 5B (RE27). Divakar even says of the RE320, "That's the way I'm supposed to sound."

Summary

Assuming you like the RE20, you can't go wrong with the RE320. Its additional bottom end seems useful on both kick and VOs; its top end is just as smooth and broadcast-worthy as the RE20, its Variable D proximity effect control is tuned just right, and the RE320 can handle all the abuse of rock 'n roll. Throw in its eminently useful mid-scoop filter (that is equally at home on kick and voice) and it seems the RE320 is a black beauty of a RE20, with lots more versatility and nary a negative. Looks like Electro-Voice just updated one of the world's most popular mics, without a hitch. **AM**

INFORMATION

① US\$499.00 (exc.tax)

② Electro-Voice (UK), 4 The Willows Centre, Willow Lane, Mitcham, Surrey CR4 4NX, UK

③ +44 (0) 208 646 7114

④ +44 (0) 208 254 5666

⑤ www.electrovoice.com



Welcome to the New Standard in Recording Technology



Symphony I/O

Ultimate sound quality
Logic and Pro Tools compatibility
Total I/O flexibility

Raise Your Standards

0845 500 2500
www.sonic-distribution.com

SONIC


APOGEE
www.apogeedigital.com

PRODUCT SAMPLER

Recorders

They're all recorders, and they all record – the rest is up for grabs. Track count, timecode, portability, format, media, metering, built-in mics, I/O; what's your flavour? Here's a taster...

Aaton's Cantar-X2 is an over-the-shoulder eight-track mixer and recorder



with nine rotary analogue faders and six linear mixer sliders. It is able to simultaneously record the same audio files on both the internal and external hard drives. Configurations can be saved to a laptop and loaded to any Cantar machine. A cold start from zero power to recording can be executed in less than five seconds.

www.aaton.com



The **Fostex** PD606 is an eight-track digital mixer and recorder that records to internal HD or DVD-RAM. It features an on-board six-channel mixer and a maximum 10 second pre-record. Automatic file closing in the background every 60 seconds provides fast data recovery in the event of a power outage. The PD606 is manufactured from durable materials designed for a busy life in the field.

www.fostex.com

Korg's MR-2 high-resolution mobile recorder features multi-format recording and playback to and from SD or SDHD cards. It also benefits from a high-performance X-Y configuration stereo electret condenser mic, capable of rotating 210 degrees. It can be mounted to camera tripods via screw mounts on two of the recorder's surfaces for flexible and secure placement.



www.korg.com

AEQ's PAW 120 is a portable recorder with voice activated recording and XLR adapter for the use of external microphones. It supports BWF file format for easy integration with radio automation systems. It also appears as a USB removable external advice, compatible with Windows and Mac OS. A mechanical switch activates automatic gain control.



www.aeqbroadcast.com



JoeCo's BLACKBOX RECORDER is a dedicated 1U rack-mounted 24-channel recorder. It can be connected to live mixing consoles to capture audio in Broadcast WAV format to a separate USB2 hard drive. The separate drive makes it easy to take recorded data to the studio and removes the storage limitations of integrated drives. The Broadcast WAV format stores a timestamp that makes it ideal for transporting multi-track audio.

www.joeco.co.uk

The **Marantz** PMD660 is a feature-packed mobile recorder that records to Compact Flash media cards. Editing can be achieved in the field using either of two editing modes, or by transferring files to a PC via the recorder's USB port. The PMD660 also features XLR inputs, phantom power, and two built-in condenser mics for stereo recording. The unit is powered by four AA batteries.



www.d-mpro.com



The **Denon** DN-F650R is a professional solid state recorder that records to and between SD/SDHC Flash card and USB external drives. It is designed for playback and recording applications in AV installation, audio production, live sound, theatre, and broadcast. The recorder features balanced XLR analogue audio and AES/EBU digital I/Os.

www.dm-pro.eu

HHB's FlashMic combines a Sennheiser capsule with a broadcast quality Flash recorder. The recorder makes it easy to capture and deliver high quality recordings, leaving journalists free to concentrate on the story. FlashMic is available in four models, with a choice of Cardioid or Omnidirectional capsules, and with or without line input.



www.hhb.co.uk

M-Audio's Microtrack II is a high-fidelity mobile recorder that records audio to Compact Flash memory cards. The recorder offers a range of input options, with quarter-inch TRS inputs capable of mic or line-level signals, dual microphone pre-amps with 48V phantom power, and a TRS input with 5V power for use with the included stereo electret microphone.



www.m-audio.com

► **Mayah's** Flashman II is a portable recorder for reporters. It is able to record locally to SD Card or USB, whilst simultaneously transmitting audio back to the studio. By doing so, the reporter is able to edit their material after transmission for subsequent re-use. Proprietary FlashCast technology recognises and connects to almost any audio codec and format, simplifying operation on-location.

www.mayah.com



The **Olympus DS-71** is a professional dictaphone, capable of recording in a 44.1kHz/16 bit sampling rate. The unit features 4GB of internal memory (allowing for a maximum of 1,062 hours of recording) and file management software that handles WMA and WAV file formats. The DS-71 also has a built-in monaural microphone, and detachable stereo microphone.

www.olympusamerica.com



The **SADiE** PCM-H64 system is a multi-track digital recorder that benefits from SADiE 6 software. It comes in two form factors; the 4u MADI version, and the 7U Expander version. The former provides digital I/O only on a MADI interface, whilst the latter provides an expansion chassis that provides flexible combinations of analogue and digital I/O options.

www.sadie.com



The **Nagra VI** is an eight-channel digital recorder with a 120GB internal hard disk. Four of the unit's six analogue inputs are equipped with traditional Nagra microphone pre-amps. The remaining two are AES inputs. The VI is fitted with a full SMPTE/EBU time code system including a chase synchroniser. The unit is supplied with detachable supporting legs that adjust the viewing angle for on-cart use.

www.nagraaudio.com



The **Roland R-1000** is a stand alone dedicated recorder/player, designed to work with the company's V-Mixing System in any live production. The R-1000 can also be connected with any digital console that has MADI output capabilities via the Roland S-MADI REAC MADI Bridge. It is ideal for virtual soundchecks, and can be connected inline between a V-Mixer and Digital Snake for selectable playback.

www.rolandsystemsgroup.com



Sony Professional's PCM-D50 is a 96 kHz/24-bit recorder. It features a two-position stereo microphone and digital pitch control. It can record to a 4GB internal Flash drive or an external Memory Stick PRO-HG Duo. The device can record for 14 hours at 44.1kHz/16-bit when powered by four AA batteries. Optional accessories include a remote control, tripod stand, and microphone windscreens.

www.pro.sony.com



Coming soon: BBR64-MADI and Dante versions

BLACKBOX RECORDER

a multi-track for the 21st century



LIVE MULTI-CHANNEL AUDIO CAPTURE FOR

BROADCAST • FILM AND TV SOUND • POST PRODUCTION • LIVE PERFORMANCE

- Capture live multi-track audio without a computer.
- Applications in Broadcast, Film and TV Sound, Post Production and Live Performance.
- Unbalanced/balanced analogue, AES/EBU and Lightpipe digital versions available.
- Records onto a regular USB2 drive, or USB Flash drive.
- Fail safe features for secure audio capture.
- USB drive plugs straight into workstation for instant editing. No wasted file transfer time.

**BLACKBOX PLAYER
AVAILABLE
NOW!**

www.CapturingPerformance.com

Distributed in the UK by MSL Professional
Tel: 0207 118 0133
www.mslprofessional.co.uk
sales@mslpro.co.uk

msl
professional

The 788T is a member of the **Sound Devices' 7 Series** of digital audio recorders. It is designed for production sound and features eight inputs and twelve tracks. Each input accepts either microphone or line-level signals, and is capable of providing 48 V phantom power for condenser microphones. The 788T can record to a 160GB internal SATA hard drive, CompactFlash media, or an external FireWire hard drive.

www.sounddevices.com



Yellowtec's iXm is a reporter's microphone with proprietary auto-levelling. An adjustable pre-roll time makes it possible to record up to 30 seconds of pre-buffered audio prior to the record button being pressed. The recorder features a choice of three interchangeable mic heads. The DSP automatically adapts to each detected mic head without changing any manual settings.

www.yellowtec.com



Zaxcom's Deva 5.8 is a 10-track hard disk recorder for film and television production. The display and controls are mounted on the top of the unit and it is light enough to be used over the shoulder. The unit is a complete solution for recording, mixing, and effects, featuring eight hardware faders, an integrated hard drive, DVD-RAM, and Flash memory slot.

www.zaxcom.com



Tascam's HS-P82 field recorder offers eight discreet input channels of analogue or digital AES/EBU recording, in addition to a stereo mix down of all eight inputs. Audio is recorded in WAV format at up to 192kHz/24-bit to a pair of Compact Flash cards. The Broadcast WAV files include iXML metadata for quick import into editing systems via the onboard USB connection or a standard card reader.

www.tascam.com



Yamaha's Pocketrak 2G is a lightweight mobile recorder that runs for up to nine hours when recording in MP3 mode. It is also capable of recording up to three hours of audio in a CD-quality linear PCM mode to a 2GB integrated drive. A USB connector allows for easy file transfer between the Pocketrak 2G and a computer. The recorder comes bundled with Cubase AI DAW software.

www.yamaha.com



The **Zoom R8** is a scaled down version of the company's R24 recorder, designed to capture live performances. Similarly to its predecessor, the R8 combines an eight-track recorder, an audio interface, a DAW control surface, and a sampler complete with drum pads and a rhythm machine. The R8 can playback eight tracks of audio at up to 24-bit/48kHz resolution in WAV format.

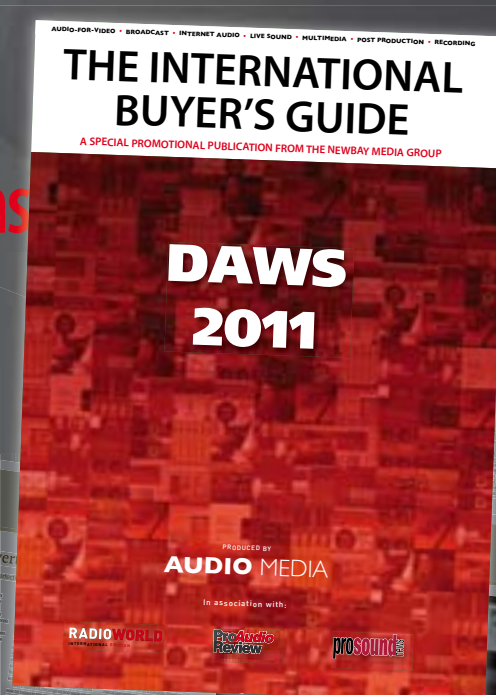
www.zoom.co.jp



Don't Miss the International Buyers Guide to DAWs & Plug-ins

This addition to the Buyers Guide series brings the top manufacturers of DAWs and Plug-ins together in one publication

Available to download from our website
www.audiomedia.com



THE CENTER OF IT ALL

The Center of Pro-Audio Experience

Create a listening experience that knocks their socks off. Reach your audience or congregation like never before. Bring your ambitions to **InfoComm 2011**—the largest pro-AV event in the world—and get equipped to make them happen.

Explore solutions from 250 pro-audio equipment manufacturers in the Audio Pavilion.

- Loudspeakers, amplifiers, mixers
- Microphones, headphones and headsets
- Signal processing and wireless equipment
- Distributed audio, nurse call and paging solutions

Experience and compare live sound systems from dozens of brands in Audio Demo Rooms, *only* at InfoComm.

Get hands-on training from experts in InfoComm Academy®'s audio and acoustics sessions or the three-day Syn-Aud-Con conference.

Register now for the leading pro-audio, sound and acoustics show!

www.infocommshow.org



Be sure to enter **VIP Code MKN04** when registering for your chance to win an Orlando VIP package!

Visit www.infocommshow.org/win for complete rules.

Incorporating

NSCA
BUILDING CONNECTIONS™

> **Systems Integration Expo®**

NSCA Conference June 13-17

video guide

A Sound Pro's Guide To Video

Colour Grading: Part 14

KEVIN HILTON gauges how long-time manufacturer of colour grading systems, Quantel, stands in relation to some of the newer kids on the block.

The concept of digital intermediate (DI) ultimately gave post-production facilities the freedom to cross the boundaries between different disciplines and allows material to be worked on simultaneously by colour graders, picture editors, and visual effects artists. Another equally important side effect has been to give manufacturers already involved in digital broadcast and post technologies the opportunity to move outside their original core market area and into associated sectors.

A leading example of this is British manufacturer Quantel. Founded in 1973 by Peter Michael, who had previously set up data conversion specialist Micro Consultants Group (MCG), Quantel (the name is a contraction of the term Quantised Television, relating to the procedure for turning a TV picture into a digital signal) made its name two years later by producing the first all-digital framestore synchroniser, the DFS 3000.

In 1981 Quantel introduced the Paintbox graphics system, which had an immense influence on how TV programmes looked and were made during the '80s. During the early 2000s Quantel became a leading proponent of DI through the iQ workstation. This included comprehensive colour correction tools together with editing, conforming, effects, compositing, titling, retouching, and conversion for delivery functions.

The reaction in the business was that Quantel had made a significant leap in moving into colour grading, something it had not previously been known for. The reality was that Quantel had first started looking into colour correction with its Harry digital compositor, launched in 1986. This included what, for the time, was considered to be a good range of colour correction tools, including the Fettle control. This is a set of colour manipulation features for secondary grading, running in the Y, Cr, Cb, and RGB colour space. Since then all Quantel finishing systems have had colour correction capability.

New For The 'Nineties

Quantel produced new visual effects and non-linear editing systems during the 1990s, anticipating the coming of DI with the Dylan RAID disk storage, Clipbox multi-user video server, and Open Picturynet networking systems in 1993, 1994, and 1995 respectively. With the turn of the new century Quantel began to embrace the new technology of what would become known as digital intermediate, beginning in 2000 with the iQ, which has a good claim to be recognised as the first commercial 2k DI system.

The iQ was designed initially as a platform for editing and compositing but colour correction tools were added later to create a full post-production package. QColor became part of iQ – and the SD/HD eQ finishing system – in 2003. It is a hardware and software option, with a three tracker-ball control panel running a colour correction program offering tracker-linked mask correction, grading layers in context, multi-resolution time-line working, multi-shot correction, visual storyboards, print matching LUTs (look-up tables), and background networking.

QColor also has a secondary corrector, Revolver, which gives multiple corrections on a single layer as one algorithm, which Quantel says produces markedly faster processing, supported by the MME (multiple media engine). The iQ was later upgraded to 4k operation, in addition to its HD, SD, and 2k capabilities.

Films graded using QColor include *Slumdog Millionaire*, *The Fog of War*, and *Wallace & Gromit: The Curse of the Were Rabbit*.

Influence At Every Level

The influence of computer and digital technology has made multi-function workstations like the iQ possible for broadcast and post-production work. The problem can be, that even with a specifically designed controller like the QColor panel, graders – like their editing and effect

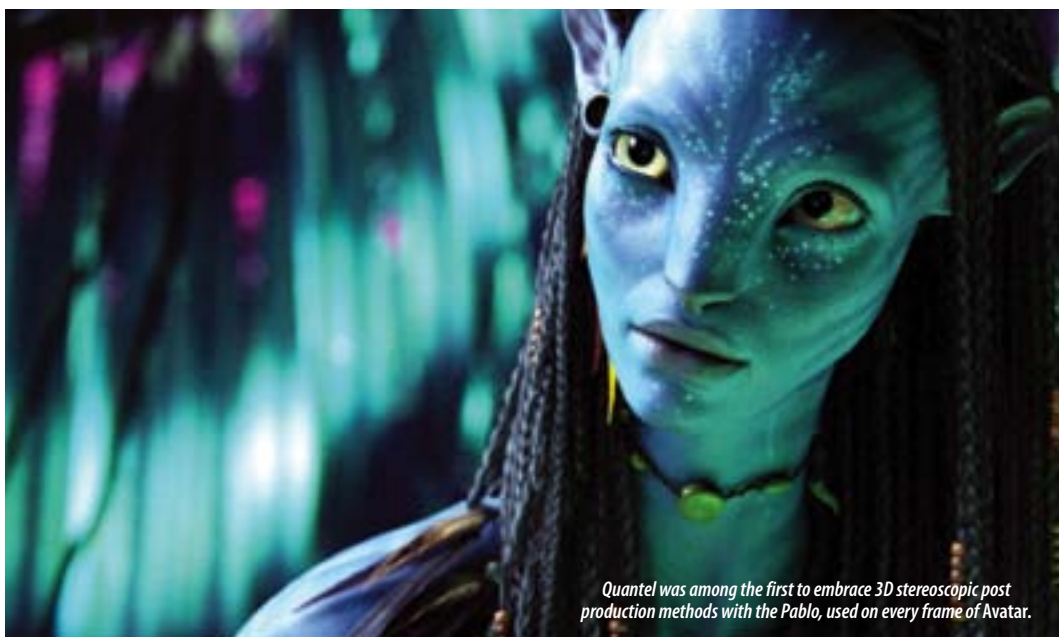
GLOSSARY DPX

(Digital Picture Exchange)

This common file format, based on ANSI/SMPTE standard 268M-2003, is used in DI and visual effects post-production, most usually to show the density of each colour channel of a scanned negative film. This is presented as an uncompressed logarithmic image, in which the gamma of the original camera negative is saved through being transferred using a film scanner. Because of this DPX has become the internationally recognised format for storing still frames in the majority of DI facilities and film labs, as it is appropriate for most raster digital imaging purposes. DPX was based on the Kodak Cineon (.cin) open file format file extension.

REFERENCES

Roger Thornton and Quantel Digital Factbook
www.quantel.com
Laurence Stoll, Marquise Technologies
www.marquise-tech.com



Colour Grading: Part 14

▶ counterparts – still prefer to have something designed for one job alone.

With this in mind Quantel built on the groundwork of iQ/eQ and QColor to produce the Pablo. This standalone system appeared in 2005 but an upgrade path was designed to allow iQ to have Pablo functions alongside its other features. Pablo has the original iQ/eQ and QColor tools, but with extra software and hardware functionality operated by an interface with a button for every individual function, something Quantel says was requested by colourists.

The design of Pablo acknowledges the shift in colour correction from hardware running in conjunction with real-time video production chains to non-linear systems operated by software programs to do the bulk of the grading, although still with a physical controller designed for the job. Pablo can work in both video and data environments, with the option for faster than real-time speeds.

Pablo is able to cope with different colour spaces, bit depths, frame rates, and resolutions natively within its systems. It can accommodate a wide range of formats, from low-resolution web files and MXF (Material eXchange Format) material up to SD, HD, and higher res graphics.

Breaking The 3D Boundary

Quantel was among the first established manufacturers to embrace 3D stereoscopic post-production methods. In 2007 a Stereo3D toolset was launched for Pablo that was used by the FotoKem film and DI facility in Burbank, California to post-produce the stereoscopic Miley Cyrus/Hannah Montana *Best of Both Worlds* live action concert film for Disney. The system has since been used on every frame of *Avatar*, directed by James Cameron, who has been instrumental in getting 3D into all aspects of filmmaking, from shooting to post to projection. *Avatar* was posted at another Burbank facility, Modern VideoFilm.

The Pablo has continued to develop since its inception. A new controller, the Neo panel, was introduced in 2008 to provide what has been claimed to be the ultimate colourist interface. The Neo gives graders the choice of working in the traditional way, using tracker balls to control each colour group, or with the standard Quantel pen and stylus set-up or keyboard shortcuts.

Creation of the Neo panel was sub-contracted to industrial design company Rubicon ID, which is based not far from Quantel's headquarters in Newbury, Berkshire. It is built from machined aluminium, machined plastic, vacuum formings, and different kinds of injection mouldings. Neo includes three products already designed by Rubicon ID, including the Optical and Illuminated Push Button controls. Quantel supervised the design in a project management capacity.

The latest incarnation of Pablo is the PA, a software-only version of the colour correction system. Pablo PA can run on computers with a minimum spec of: Quad Core i7 2.0GHz, 4GB dual channel memory, direct X9 graphics, a 7200rpm SATA or SAS drive, Windows compatible sound card, a 1000baseT network, Windows 7 64-bit Professional, and a keyboard, mouse, and 17-inch monitor.

Pablo PA offers features for colour, import,

news

German post-production group OMNIMAGO has installed a DFT SCANITY film scanner at its scanning and colour correction facility in Wiesbaden. The new machine is being used to scan a broad range of film stocks, both for production of new feature films and archiving and restoration work.

The SCANITY has taken over from the Spirit DataCine, FDI Quadra and Cintel URSA Diamond that were previously used for OMNIMAGO's scanning projects. The scanner has been integrated with colour correction, digital restoration, and editing systems, together with DFT BONES Dailies software. The core of the installation is a DVS Digital Video System SAN.

Commenting on the installation, Olaf Legenbauer, head of the film department at OMNIMAGO, said, "The fast scanning speeds of SCANITY, in combination with grain reduction and a defect-map generated by an infrared camera, were all very convincing arguments for us. The automatic features for focus and D-Min-operations allow us to calibrate optimal images even faster. Our colourists also appreciate how easy SCANITY is to understand and operate."

Peter Fries, Managing Director of OMNIMAGO, added, "A new technological era starts at OMNIMAGO with the SCANITY film scanner. Our investment not only transforms our internal production

and post production processes, it will help us solidify new clients in existing and new markets with technology and service offerings that encompass higher standards of quality and flexibility."

Among OMNIMAGO's archiving, restoration, and preservation work is a collaboration with the Friedrich-Wilhelm-Mamau-Stiftung Foundation, which involves restoring two silent fantasy films made in 1922, known as *Die Nibelungen*, which are important for their use of visual effects and lighting.

export, archiving, and conforming, together with 3D capability and support for RED camera workflows and DPX (digital picture exchange, see glossary). It also has the MLTFX (multiple effects) module, which allows pre-visualisation of multi-effects in context as they appear on the timeline. This feature can also perform DVE (digital video effects), colour, keying, blur, graphics and text functions, with access to plug-ins. Other features include still store, storyboard, multiple cascade colour layers, Revolver secondary grading, Fettle, printer lights, selective keyer, and shape selectives.

This software-only version was designed both so that facilities on smaller budgets could work with the Quantel system but also as a support system for iQ, eQ, and Pablo itself.

The New And The Old

Quantel is among the longer-serving developers of colour grading systems, joining da Vinci (now part of Blackmagic Design) and Pandora International, as well as telecine veteran Cintel. The newest on the block is Marquise Technologies, although this Swiss company does have more of a lineage than its mere two years on the market might suggest.

Marquise was founded by current Chief Executive Laurence Stoll with Dan Tatut, founder of Chrome Imaging and developer of the Matrix compositing and colour grading system. Based in Geneva, Chrome Imaging had been working in the market for ten years, supplying leading European post houses, including Swiss facility Freestudios.

Matrix's primary colour correction features include film-style density controls, including printer lights; telecine-style controls for lift, gamma and gain; colour balance with tonal range distribution curves; and colour re-mapping using RGB and HSL curves. Among the secondary functions are 12 independent secondaries per shot; trackable hierarchical shapes (free-form, elliptical, and rectangular); combinable shapes and keys for secondary and spot corrections; and RGB, CMY, HLS, and HMS colour range selection with

softness values. Other features include support for linear and logarithmic colour spaces; capability to handle 8/10/16/32-bit colour depths; real-time 4k interactivity, with real-time playback up to 2k; colour correction set-up memory; animated pan and scan; and tools for comparing different versions.

Due to this background the newly founded Marquise Technologies was able to get products on the market quickly. First to be launched was M I S T (Media Ingest Stream Transcode), a software package aimed at conforming and management of dailies. It is intended to be a back-up workstation for the main creative grading workstation.

Next to appear was R A I N (Radically Advanced Imaging N-gine), a colour correction system designed for grading sessions during which the client would be present. Based on the concept of constant real-time operation, the system was designed to deliver the necessary speed and power in addition to advanced technical features.

As part of this R A I N does not rely on rendering; instead it is able to accept material in real-time and display it immediately. It is designed for grading commercials and music promos as well as feature films and is able to handle multiple secondary layers at high resolution.

Secondary grading tools include logarithmic and linear corrections, a grade library, multi-resolution, bit-depth and frame rate capability, and multiple format handling (DPX, TIFF, R3D, ARRIRAW, and Apple ProRes). Among other features are real-time image transport using 3G SDI, digital camera production chains (ARRI, RED), and 3D stereoscopy at 4:4:4.

Next month's Video Guide will look at Marquise Technologies' O C E A N telecine controller, designed for the Sondor Alta TK machine and now available for Cintel and DFT models. This examination of colour correctors will also include desktop systems, including Apple Final Cut Pro Color, and how da Vinci and Pandora responded. **AM**

win!

Each month, sE Electronics and *Audio Media* are giving away an sE 4400a microphone to one lucky subscriber. All you need is a subscription to *Audio Media* magazine (digital or print) – if you don't have one, complete this form or subscribe online at www.audiomedia.com. All new subscriptions will automatically be entered into that month's prize draw, and the winner drawn at random from our complete subscriber list, contacted by e-mail and announced in the following month's magazine.



"I've found the 4400a to be a hugely versatile mic – it's great for acoustic instruments, and I especially like it on drums and percussion. Its hyper-cardioid pattern is extremely useful on toms and snare as it control cymbal spillage really well and delivers great punch and tone"



Gil Norton: Foo Fighters, Pixies, Gomez, Feeder, Counting Crows, Maximo Park

- 4 polar patterns
- 10 and 20dB pad
- 60/120 bass cut
- Multi-function shock mount (patent pending)

T&Cs

1. Only one entry allowed per subscription/subscriber.
2. Entry to the draw is only through subscription.



Sound Engineering

www.seelectronics.com

Subscription Form

To qualify for your free subscription you must complete all the questions below:

1 JOB FUNCTION (please circle)

- | | | | |
|--|----------------------------------|---------------------------------|------------------------------------|
| A Managing Director/owner/
corporate Management | D Chief Engineer | H Operations/production Manager | L Studio Designer |
| B Studio/facility Manager | E Independent/freelance Engineer | I Consultant | M Trainee Audio/Video Professional |
| C Producer/director | F Engineer/technician | J Sales/marketing/admin | N Other |
| | G Sound Design/editor/mixer | K Artist/musician | |

2 TYPE OF BUSINESS (please circle)

- | | | | |
|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------|
| A Commercial Recording Studio | G Radio Station | M Rental/hire | S Manufacturer |
| B Project/private Studio | H Live Sound Production | N Acoustics/facility Design | T Education/training Facility |
| C Audio/video/film Post Production | I Contractor/installation | O Multi-media/internet Web Creation | U Media/industry Association |
| D Audio/video/film Production | J Venue/auditorium | P Record Production Company | V Other |
| E Broadcast Production | K Remote Truck/location Recording | Q Corporate/government/telecomm | X Games Audio |
| F Tv Station | L Mastering/replication/duplication | R Dealer/distributor/retailer | |

3 FIELD OF WORK (please circle)

- | | | |
|--------------|---------------|--------------------|
| A Audio Only | B Visual Only | C Audio and Visual |
|--------------|---------------|--------------------|

4 PURCHASING AUTHORITY (please circle)

- | | | |
|-------------|---------------------|----------------------|
| A Authorise | B Specify/recommend | C End user only/none |
|-------------|---------------------|----------------------|

5 PURCHASE INTENTIONS 2011–12 (circle all that apply)

- | | | | |
|-----------------------|------------------|------------------------------|------------------------|
| A Microphones | C DAW technology | E Monitors/ Headphones/ Amps | G Pro Video Technology |
| B Processors/Plug-ins | D Recorders | F Live Sound Reinforcement | H Consoles |

NAME

JOB TITLE

COMPANY

ADDRESS

TOWN / CITY

COUNTY / STATE

COUNTRY

POST CODE / ZIP

TEL.....FAX

E-MAIL@

I M P O R T A N T :
Sign here if you wish to receive **AUDIO MEDIA**

Signed..... Date.....

This application is not valid unless every section is completed and it is signed and dated. If you do not qualify to receive **AUDIO MEDIA** without charge, it is available by subscription at:
£43 UK, £60 Europe, £65 Rest of World.

Once you have completed this form please return to IMAS Publishing (UK) Ltd. You may fax back to us on:

+44 (0)1480 461550, mail it to us at Audio Media, Imas Publishing (UK) Ltd, Subscription Dept., 1st Floor, 1 Cabot House, Compass Point Business Park, St Ives, Cambs PE27 5JL United Kingdom, or visit www.audiomedia.com/subscribe.html and fill out a subscription form for Audio Media.

Incomplete forms will not be processed. This information is used for IMAS subscription purposes only.

The Publisher offers free subscriptions on a limited basis to those who meet publisher's definition of qualifications and reserves the right to not serve or discontinue free subscriptions at any time.

AUDIO MEDIA CLASSIFIED

Angela Brown on +44 (0)1480 461555 E-mail: a.brown@audiomedia.com

SERVICES



**THE VINTAGE
NEVE
SPECIALIST**

WANTED OLD NEVE & SSL CONSOLES

(ANY CONDITION CONSIDERED)

AES PRO AUDIO IS A UNITED KINGDOM
COMPANY WHO PURCHASE WORLDWIDE

TEL: 01932 872672 FAX: 01932 874364 TEL INT: 44 1932 872672 FAX INT: 44 1932 874364
email: aesaudio@intonet.co.uk www.aesproaudio.com

1000 CDs with Booklet+Inlay c.£600
Quality CDR / DVD copies from 51p
CD/CD-ROM Mastering £70ph
DVD, CD-audio, CD-ROM, Cassettes



**Repeat Performance
Multimedia**

6 Grand Union Centre
West Row
London W10 5AS
Tel. 020 8960 7222

visit us at
www.repeat-performance.co.uk



Excellent!

Over 23 years experience
Graphic design, colour print
Large and small run specialists
Excellent quality and presentation



The largest collection of serious recording tools in the UK

KMR

AUDIO

www.kmraudio.com
020 8445 2446 • sales@kmraudio.com
1375 Whetstone High Rd, London, N20 9LN



THE Buyer's Guides for Professional Audio

All available to download as PDF's from our website



Be seen amongst the best
call Graham Kirk on +44 (0) 1480 461555 g.kirk@audiomedia.com
www.audiomedia.com

STUDIO ACOUSTICS

The Studio People 01743-885244
07977-043763
www.studiopeople.com

from designing a small v/o booth to
building your multi-room studio complex
... we do it all!



**CALL US NOW FOR A FREE
QUOTATION AND ADVICE**

AIR CONDITIONING

AIR CONDITIONING & VENTILATION TO SOUND STUDIOS IS OUR SPECIALITY

WE PROVIDE DESIGN ONLY OR DESIGN AND
INSTALLATION FOR MANY WELL KNOWN CLIENTS.

WHETHER IT BE FOR DISPLACEMENT, FREE
COOLING, V.A.V., V.R.V., SPLIT, UNITARY OR
CENTRALISED CALL **MIKE HARDY** OF
AMBTHAIR SERVICES LTD ON
01403 250306 OR FAX 01403 211269

WEB: www.ambthair.com
Email: cool@ambthair.com

Delivered to over 140,000
professionals in print and
digital format.
The Buyers Guide is
the place to be seen.



**THE INTERNATIONAL
BUYER'S GUIDE**
A SPECIAL PROMOTIONAL PUBLICATION FROM THE AUDIO MEDIA GROUP

**LIVE SOUND
APPLICATION
2010 - 2011**

AUDIO MEDIA

call Graham Kirk on +44 (0) 1480 461555
g.kirk@audiomedia.com
www.audiomedia.com

CLASSIC

No Country for Old Men

It is in this film where the definitions of music and sound converge, says STEPHEN DEUTSCH, as he looks at how both are integral to the piece rather than a last consideration.

FROM THEIR FIRST FEATURE, *Blood Simple*, to their most recent success, *True Grit*, Joel and Ethan Coen have created a range for films that marry wit with polish, and combine surprise with familiarity. They have produced, written, and directed films in a variety of genres, from screwball comedy (*O Brother Where Are Thou*) to gangster film (*Miller's Crossing*), from remake (*The Ladykillers*) to film noir (*The Man Who Wasn't There*).

The critical success of most of their films is due primarily to the skill of their scriptwriting and the deftness of their direction. They also have an instinctive knack of surrounding themselves with talented and loyal collaborators, in particular their Cinematographer, Roger Deakins (a British alumnus of the National Film and Television School, Beaconsfield), as well as the team of Composer (Carter Burwell) and Sound Designer (Skip Livesay), who have been with the Coens from the beginning. It should here be noted that the third member of the post-production team, the Editor, Roderick Janes, does not actually exist, the role being taken by the Coen Brothers themselves.

Developing Style

Burwell and Livesay have developed a style of working that can be called 'convergent'. In many of their films, most notably this one and *Barton Fink*, music and sound seem to come from the same place, from inside the weave of what we are seeing. It is sometimes difficult to pick out what is music and what is sound. Most Hollywood films are produced in such a way that sound effects and particularly music are the last part of the production process. Often a composer will not become involved with the film until final cut. Sound Design is consistently done in isolation from the score, and somehow all gets assembled in the final dub. It is hardly surprising that some directors have either used source music (Scorsese, Tarantino) or composed their own music (Chaplin and Mike Figgis, who has gone on record that the reason he writes his own music is that it takes him two years to make a film, and he isn't going to let some 'idiot composer' ruin it in six weeks).

Livesay and Burwell collaborate on each film early in development, usually at script stage. They discuss the script with the Coens, deciding where music or sound (or both) should go. They often distribute their contributions according to the texture of a scene. Burwell might provide mainly high sounding gestures while Livesay provides a low drone. In this way they are able to achieve a balanced soundtrack, often complex but rarely cluttered.

Converging In Texas

No Country for Old Men is faithfully based on a crime-thriller novel of the same name by Cormac McCarthy. Set in West Texas in 1980, it concerns stolen drugs money and a ruthless homicidal pursuit for its return. It centres on three main characters, Bell, an ageing sheriff played by Tommy Lee Jones, Moss, the hapless thief played by Josh Brolin, and Chigurh, the psychopathic hit-man, played to icy Oscar-winning perfection by Javier Bardem. The minimalist soundtrack includes engine noises and prairie winds, as well as more emphatic sounds such as gunshots (one notable sound, that of

a captive bolt pistol used by the hit-man Chigurh as a murder weapon, was produced by a pneumatic nail gun). Unlike most thrillers, there is very little music, much of it created by non-traditional instruments, particularly "singing bowls", normally used in Buddhist meditation.

One particular scene demonstrates this subtle convergence between sound and music. It begins with a long shot of a lonely filling station on an empty dusty road. We hear (but do not see) a squeaky windmill, and sense a bit of wind (but do not see much movement). Inside the shop, Chigurh is about to pay for petrol and a candy bar. We know that he has just murdered a police officer and an unlucky motorist. We understand just how dangerous he is. The garage owner does not, and engages Chigurh in banal conversation, to the hit-man's increasing annoyance. The scene is accompanied by slightly more wind than we might expect to hear, and raised FX, for example the empty candy-bar wrapper unscrunching on the counter-top.

By the time the garage owner is asked, "How much have you ever lost on a coin toss?" we know that he is in great danger of being killed, even if he himself is unaware of his peril. At that moment a chord is mixed into the wind, thickening this lonely sound with subtle menace. We are so engrossed with a morbid fascination by the garage-owner's imminent grisly death, that we ignore these sounds. Luckily, the coin's toss is correctly guessed. The garage owner is safe, the wind and chord dissipate into the atmosphere of our relief, and even a bit of humour rises with Chigurh's eyebrow.

It is through the combination of all the sounds of this scene, into a tight mesh of congruent elements, that helps to hold the audience so tightly. We become captive of the quiet sounds of loneliness, occasionally assaulted by sharp sonic explosions, shards of violence imposed on a bleak desert world.

Readers interested in similar articles might wish to look at *The New Soundtrack*, a journal with contributions from some of the most eminent writers on sound. <http://www.euppublishing.com/journal/sound>



Power Tools™ for Recording!



"Use the J48 everyday. The signal path is clear, punchy, honest and faithful to the sound of the individual player's instrument."

~ Joe Chiccarelli
Blondie, Neil Young, Chicago, Arctic Monkeys, The White Stripes, Frank Zappa



"Whether we are playing live or recording in the studio, Radial DIs are the only ones we use. They're built like tanks and eliminate noise without killing tone. I love them."

~ John Reznik
Go Go Gals



"Radial direct boxes make everything I put through them sound punchy and clear. They are great DIs."

~ Chick Corea
Electric Band, Miles Davis, Return to Forever



"With the Radial JDI, my bass comes through extremely clean, very quiet, and with a smooth transparent low end. I use my JDI for everything."

~ Tony Levin
Peter Dinklage, King Crimson, Paul Simon, John Lennon



"I use Radial gear in my studio on a daily basis and I'm here to say it performs flawlessly."

~ Jim Messina
Eagles & Messina, Poco, Buffalo Springfield



"The Radial SGI is amazing! It improves your signal over a straight cable. I can run my Vox AC30 into outer space, record from Earth and it doesn't suck."

~ Butch Walker
Weezer, Avril Lavigne, Pink, New Found Glory, All Time Low, Seaside, Fall Out Boy



"The JDX is the DI I've been looking for - clean, round, pure bass tone, exquisite build quality yet highly portable - probably the only high-end DI that fits in my go bag. No job Radial!"

~ Justin Meldal-Johnsen
Nirvana, Grunge, Neil Young, Black Eyed Peas, Macy Gray



"The Radial Phaser is incredibly easy to use. It takes minutes to dial in the sweet spot and create really cool sounds. The results are nothing short of dramatic."

~ Jay Baumgardner
Rage Against the Machine, P.O.D., Fearless, Godsmack, Hootie & the Blowfish



"It is nice to find great sounding industrial grade equipment still being made today!"

~ Daniel Lanois
R.E.M., Robbie Robertson, Bob Dylan, Peter Dinklage

J48™ active phantom DI "The go anywhere DI"

The Radial J48 outperforms all other phantom powered direct boxes with lower harmonic distortion, greater phase accuracy and warm even order harmonics. Perfect for bass, electric and acoustic guitar.

JDV™ class-A direct box "All the tone, no hype"

The Radial JDV's unique feed-forward class-A circuit design delivers purity beyond compare. The ultimate DI box for acoustics, upright, electric bass and more.

JDI passive Jensen™ DI "Vintage vibe personified"

Hit it hard and the Radial JDI smoothes out the digital edge to deliver a natural smooth tone reminiscent of the glory days. Ideal for active bass, samplers and digital piano.



SGI™ studio guitar interface "Instant gratification"

Sit in the control room, play guitar and hear the results as you move the mics or change amps. The Radial SGI drives your guitar signal hundreds of feet without loss or coloration and puts you in total control of your sound.

JDX™ amp and cabinet DI "Maximum tone right now"

The Radial JDX Reactor captures the signal from the head and the back impulse from the cabinet for a more realistic guitar amp tone. Half-stack emulation delivers perfect tone every time.

X-AMP™ active re-amp "Record, re-amplify, rejoice"

Re-amping is easy with the Radial X-Amp. Drive it from your recorder to pedals, amps and effects to create stunning new landscapes. With X-Amp you finally can fix it in the mix.



Radial
engineering
...power tools for power players™

www.radialeng.com

Authorized Distributors:

BeneLux:
FACE-RE
+32 3 844 67 97
www.face-re.be

France:
ARBITER
+33 2 40 11 05 05
www.arbitrance.com

Germany:
MEGA AUDIO
+49 6721 9 43 30
www.megaudio.de

Italy:
GRISBY MUSIC
+39 71 7211 340
www.grisby.it

Norway:
GE MUSIKK
+47 6 486 2018
www.gemusikk.no

Portugal:
TECHMUSICA
+351 21 206209130
www.techmusica.pt

Spain:
SEESOUND
+34 905 443 778
www.seesound.es

United Kingdom:
SHURE DISTRIBUTION
+44 1902 703058
www.shuredistribution.co.uk

1588 Kestel Way Port Coquitlam BC V3C 5M5 tel: 604-942-1001 email: info@radialeng.com

Two new Consoles. Infinite New Possibilities.



Live



HOW



Broadcast



Theater



Corporate



Post



Sports

The new SD10 and SD11 from DiGiCo

DiGiCo are proud to announce two new members of our family.

The SD10 provides a potent blend of features, with 96 processing channels, 48 busses, and all the EQ, Dynamics, and Effects that have become the DiGiCo standard. All running smoothly at 96K, the SD10 redefines performance and flexibility, coupled with the exceptional sonic clarity for which DiGiCo is known.

The SD11, with 32 processing channels, incorporates 16 Mic/Line inputs, 8 Line Outputs, and 2 AES I/O on the surface, and provides the full DiGiCo experience, from the exceptional audio performance to the inclusion of all the standard features you'd expect from DiGiCo. The standard configuration allows the SD11 to be used as both a table top or rack mounted mixer. In addition to the on board I/O, there are facilities to connect a D-Rack and any MADI device, including another DiGiCo Rack, greatly expanding the total I/O.

Both offer the power and purity of Stealth Digital Processing™, the smoothness, accuracy and dynamic range of the latest generation Super FPGA technology with floating point processing plus application-specific features sets that are tailored to the demands of modern day applications.

Two new consoles. Infinite new possibilities. Click to www.digico.biz/products



www.digico.biz

DiGiCo UK Ltd. Unit 10 Silverglade Business Park, Leatherhead Road, Chessington, Surrey KT9 2QL. Tel: +44 (0) 1372 845600

THE INTERNATIONAL BUYER'S GUIDE

A SPECIAL PROMOTIONAL PUBLICATION FROM THE NEWBAY MEDIA GROUP

MONITORING & HEADPHONES 2011

PRODUCED BY

AUDIO MEDIA

In association with:

RADIOWORLD
INTERNATIONAL EDITION

ProAudio
Review

prosound news

Monitors & Headphones Manufacturers Directory

ACOUSTIC ENERGY
www.acoustic-energy.co.uk

ADAM AUDIO
www.adam-audio.de
+49 30 863 00970

AKG
www.akg.com
+43 1 866 540

ALESIS
www.alesis.com
+1 401 658 5760

AMBIANCE ACOUSTICS
www.calcube.com
+1 858 485 7514

ATC
www.atc.gb.net
+44 0 1285 760561

AUDIO-TECHNICA
www.audio-technica.com
+44 0 113 277 1441

AUDIX
www.audixusa.com
+1 503 682 6933

AVID
www.avid.com
+1 650 731 6100

B&W
www.bowers-wilkins.co.uk
+44 0 1903 221500

BAG END LOUDSPEAKERS
www.bagend.com
+1 847 382 4550

BEHRINGER
www.behringer.com
+49 2154 9206 0

BEYERDYNAMIC
www.beyerdynamic.com
+49 7131 6170

BLUE SKY
www.abluesky.com
+1 516 249 1399

CANFORD AUDIO
www.canford.co.uk

DENON
www.denon.co.uk
+44 (0)2890 279830

DYNAUDIO ACOUSTICS
www.dynaudio.com
+45 87 427 000

EARTHWORKS
www.earthworksaudio.com
+1 603 654 6427

EDIROL
www.edirol.com
+44 0 1792 702701

EMES
www.emes.de
+49 0 8222 965954

ESI
www.esi-pro.com
+49 0 7152 398880

EVENT ELECTRONICS
www.event1.com
+61 2 9648 5855

EXIGY
www.exigy.co.uk
+44 0 1256 381944

FAR
www.atd2.com
+32 85 318 123

FOCAL
www.focalprofessional.com
+33 0 477 435700

FOSTEX
www.fostex.com
+81 42 546 4974

GENELEC
www.genelec.com
+358 17 83881

GRADO LABS
www.gradolabs.com

GRIFFIN AUDIO
www.griffinaudiousa.com
+1 914 248 7680

HARBETH
www.harbeth.com
+44 0 1444 484371

HOT HOUSE
www.hothousepro.com
+1 845 691 6077

JBL
www.jblpro.com
+1 818 894 8850

KRK
www.krksys.com
+1 954 949 9600

LEGACY AUDIO
www.legacy-audio.com
+1 217 544 3178

LIPINSKI SOUND
www.lipinkisound.com
+1 916 273 9726

MACKIE
www.mackie.com
+1 425 892 6500

M-AUDIO
www.m-audio.com

ME-GEITHAIN
www.me-geithain.de

MEYER SOUND
www.meyersound.com
+1 510 486 1166

MISSION
www.mission.co.uk
+44 0 845 458 1122

MITCHELL & TODD
www.excelaudio.co.uk
+44 0 208 354 0820

MK SOUND
www.mksoundsystem.com
+1 818 439 3577

MUNRO ACOUSTICS
www.munro.co.uk
+44 0 207 403 3808

NADY SYSTEMS
www.nady.com
+1 510 652 2411

NEUMANN
www.neumann.com
+49 30 41 77 240

NHTPRO
www.nhthifi.com
+1 707 747 0122

PMC
www.pmc-speakers.com
+44 0 1582 405694

PSI AUDIO
www.psi-audio.com
+41 0 24 426 0420

QUESTED
www.quested.com
+44 0 1404 41500

ROLAND SYSTEMS GROUP
www.rolandsg.co.uk
+44 (0) 1792 702701

SAMSON AUDIO
www.samsontech.com
+1 631 784 2200

SE MUNRO
www.seelectronics.com
+44 (0)845 500 2 500

SENNHEISER
www.sennheiser.co.uk
+49 5130 6000

SHURE
www.shure.co.uk
+1 847 600 2000

SLS LOUDSPEAKERS
www.slsloudspeakers.com
+1 417 883 4549

SONODYNE
www.sonodyne.com
+44 0 1923 693770

SONY
www.sony.co.uk
+1 608 256 3133

SOUND PROJECTS
www.soundprojects.com
+31 0 36 539 4570

SURROUNDTEC
www.surroundtec.de
+49 7131 797 54555

SUPERLUX
www.superlux.com
+1 404 525 0700

TANNOY
www.tannoy-speakers.com
+44 0 1236 420199

TAPCO
www.tapcoworld.com
+1 425 892 6511

TASCAM
www.tascam.com
+1 323 726 0303

TRUTH AUDIO
www.truthaudio.com

ULTRASONIC
www.ultrasonic.com
+49 0 8158 90780

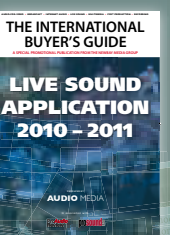
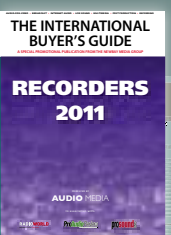
UNITY AUDIO
www.unityaudio.com
+44 0 1440 785843

WESTLAKE AUDIO
www.westlakeaudio.com
+1 323 851 1222

WHARFEDALE PRO
www.wharfedalepro.com
+44 0 1480 447707

YAMAHA
www.yamaha.com
+44 0 1908 366700

THE Buyer's Guides for Professional Audio
All you need to know for Monitors, Microphones, Recorders, Consoles and Live Sound.
All available to download as PDF's from our website



contents

2	Directory	
4	Monitoring Matters	
6	Good Vibrations.....	
8	MONITORS ADAM Audio	
10	MONITORS Focal Professional.....	
12	MONITORS Genelec.....	
14	MONITORS KRK Systems	
16	MONITORS PMC	
18	MONITORS SE Munro	
20	Headphones Buyers Guide	
21	HEADPHONES AKG.....	
22	HEADPHONES Audio-Technica.....	
23	HEADPHONES Beyerdynamic	
24	HEADPHONES KRK	
25	HEADPHONES Sennheiser.....	
26	HEADPHONES Shure.....	
27	HEADPHONES Ultrasone	

Welcome to Monitors & Headphones 2011, an overview of the professional monitor and headphone market for the production professional.

Last year, this was just a guide to monitors. Now it's an updated and refreshed collection of promotional articles looking at 12 of the world's leading monitor and headphone manufacturers and their product ranges. Inside you'll find the stories behind the drivers – the ethos' and design ethics that go into producing these critical audio production components, and details of the products themselves.

Monitoring provokes much debate, much passion, and possibly more subjective wrangling than any other node in the signal chain. Whether it's the box, the magnetics, the materials, the electronics, the room, or even the ears that make the difference, the term 'reference' is never used lightly amongst those who rely on hi-fidelity, accurate and natural voicing, spot-on transients, and a little 'something' extra.

Hopefully this guide will provide a good foundation for your monitor and headphone buying homework during 2011, and push back the boundaries of your considerations. To complement the profiles, we've included an article that takes a cross section of audio professionals and surveys their monitoring preferences, a special headphone primer feature with expert advice, plus a great foundation article based on the wise words of White Mark's David Bell.

This, and the other Buyers Guides in the series (Microphones, Recorders, DAWs, Consoles, Live Sound Technology, and Live Sound Application) are *Audio Media* projects, designed to help you find your way through the information explosion and find the product that suits your needs. *Audio Media* is an internationally distributed magazine that deals with professional audio production in film, TV, radio, music, games, and stage. It's available in both print and digital editions. For more details, go to www.audiomedia.com.

Paul Mac, Editor.

AUDIO MEDIA www.audiomedia.com

(UK) Tel: +44 (0) 1480 461555 - Fax: +44 (0) 1480 461550

Sales Manager
Graham Kirk
g.kirk@audiomedia.com

Editorial Manager (Europe)
Lanna Marshall
l.marshall@audiomedia.com

Editor In Chief
Paul Mac
p.mac@audiomedia.com

Design & Production Manager
John-Paul Shirreffs
jp.shirreffs@audiomedia.com



www.nbmedia.com

The contents of this publication are subject to worldwide copyright protection and reproduction in whole or in part, whether mechanical or electronic, is expressly forbidden without the prior written consent of the Publishers. Great care is taken to ensure accuracy in the preparation of this publication but neither NewBay Media nor the Editor can be held responsible for its contents or any omissions. The views expressed are those of the contributors and not necessarily those of the Publishers or Editor. The Publishers accept no responsibility for the return of unsolicited manuscripts, photographs, or artwork.

© 2011 NewBay Media. All rights reserved.

Monitoring Matters: Monitoring Practice Preferences

Monitoring is a very personal thing – it comes down to working methods both taught and grown from experience. But how does everybody else do it? We approached a select group of producers, musicians, and engineers to find out how the rest of the world prefers to hear.

Pete Lockett

Pete is one of the most versatile multi-percussionists in the world, having immersed himself in percussion and drums from every part of the globe, from Indian to Arabic and from Japanese to Latin. He has a number of collaborative projects and has released five albums. The wide range of artists he's worked with reflects the diversity of his playing, including Björk, Peter Gabriel, Robert Plant, Dido, and more artists that we don't have space to list.

"One rule of thumb I like to adhere to when in other studios is to work fairly quietly. Working on the main speakers too much can tire you quickly and also give you a false perspective on how good your recorded material is. If you need an ego boost then pop them on for half an hour! However, most of my recording is done in my own studio and on smaller near-fields or headphones.

When I start to fine tune and place stuff I try and listen on numerous different sources, including different headphones. My main studio monitors are HHB's Circle 5 active studio monitors and they really give me a good idea of the overall sound spectrum with an accurate and detailed perspective. I am used to listening to a lot of different music on these speakers, and this gives me a really good reference. I also like to have a cheap radio in line so I can see what it is like at the lowest end of the spectrum. If it works there then it works anywhere!"

Jake Jackson

Fresh from winning the Music Producers Guild Breakthrough Engineer award, and primarily working out of Air studios for past 13 years, Jake has recorded, mixed and engineered for award winning projects including *Sweeney Todd*, *Toast*, *Being Human*, *Silent Witness*, and *Doctor Who*, to name but a few.

"I've got two ways of working really. I'm freelance, but mostly work out of Air studios. So I use the big Dynaudio monitors they have

there, so that's always a nice way when mixing to have those. For near-field, I've recently been given a pair of Genelec 8240s, which are fantastic.

"I tend not to be too fussy. I'll usually have one pair that I know, and one pair that I'm maybe not so familiar with. I find it pretty easy to tune in to speakers and get their characteristics pretty much straight away after the first half hour, and be confident that it will be good when I listen to it somewhere else.

"When it comes to main and near-fields, since I rattle through mixes, I'll probably alternate every five minutes or so, and do that maybe three or four times. If I'm doing 15-20 mixes a day, which often happens on projects like *Doctor Who*, I'll listen on another set to get a balance. It's also very important to give the ears a break.

"If I'm working somewhere I haven't been before, I'll always go in to AIR the next day to double check. In most situations there is likely to be something that I've used before, but, for example, I've never really tended to use Genelecs until I was given this pair, and they have DSP in them, so I can take them to places I don't know, and it works smoothly. My personal guide is to have two or three sets of speakers and swap them around all the time, for different reference points."

Matt Foster

Matt worked his way up the ranks of studio personnel working as an assistant for a few of the top London recording studios (Townhouse, Strongroom, The Dairy). He now works in the industry as an Engineer/Producer with Miloco Studios management company, Interface, mostly working with commercial pop music and TV and film projects.

"When working on a mix I like to listen pretty quiet on near-fields most of the time, and just get into a headspace where you can listen intently without burning your ears out or get an overly hyped impression of the mix. Things almost always sound good loud, but the trick is to nail it when monitoring at lower levels. Then five to ten minutes out of every hour I'll have a loud blast on some soffit-mounted monitors to get a feel for how the low end is working.

"When mixing in commercial recording studios, I look for similar things in the monitoring setup as most people. Which would be a decent selection of small and larger near-fields, and some room shaking main monitors – much needed for modern pop/dance records. I also take with me a small hi-fi and Sennheiser HD-600 headphones for extra listening sources.

"Of course room acoustics are massively important, and a room with good frequency response and controlled reflections are vital. For tracking, main monitors aren't as necessary, and even just a decent pair of fairly large near-fields can be all that is needed. A setup that I'd be comfortable using in a good sounding room would be NS-10s with a good amp (Bryston for example), Genelec 1031As or ADAM A7s, and some clean, clear main monitors with good low end that can reproduce down to around 30Hz comfortably and have an accurate stereo image.

"As mentioned before, I always bring my trusty JBL hi-fi and Sennheiser headphones, and a trip to the car to have a listen is very common, as well as a quick bounce to an iPod."

Alexander Beitzke

As a freelance engineer, Alex has worked at a variety of studios including Hook End Studios as in-house engineer, Gateway School of Recording, London as studio technician, and Chase Imagination, London, as sound designer.

"Having accurate and ideally well-trying monitoring is definitely essential for both



recording and mixing. Getting to know the sound of studio standards like NS-10s – in combination with a good Bryston or Yamaha amp – is therefore very useful.

The room and the positioning of the speakers in the room does, however, have a huge effect on the sound as well, and affects soffit mains more than near-fields. I therefore tend to primarily listen to NS-10s when I don't know the studio that well. I'd then use the mains and alternative speakers just for occasional referencing and to check the bottom end.

"I find that knowing a room and its main monitors really makes work a lot easier though. Hook End's Quested monitors, for example, are incredible once you get used to them. Despite the room's huge dimensions, the frequency response is very balanced. I know that many engineers think of main speakers as a device only used to impress A&R people. Well-designed main monitors can however be much more revealing and critical than near-fields like NS-10s.

"I find that this applies especially to transient reproduction. Questeds tend to sound very slow and lazy whereas most near-fields often sound a lot tighter. Getting a mix to sound really punchy and in-your-face is therefore much harder on mains, especially if you listen at low volume, and translates very well to hi-fi systems. There are also some great middle-field monitors like the ATCs you find in Dean Street Studios Studio 1, which are incredibly transparent and open and make them a great alternative to their soffit-mounted mains.

"When choosing a mix room the monitoring is definitely a major criteria. A well designed room and good monitoring is more important than the console and outboard. A pair of quality soffit-mounted main speakers like the ones build by Mr. Quested are definitely a selling point to me.



"In the final mix stage, I often monitor through my mixdown track with an L2 limiter to make sure that transients still cut through and that the balance doesn't change too much. I use main monitors to listen to bass and kick balance and



general dynamics/energy of the track. Listening very quietly to NS-10s helps to find a good vocal level and to make sure that all instruments have their own space. Having something like a small iPod dock or a mono radio with an aux input also helps a lot to make sure that the bottom end translates well to domestic systems."

Adrian Breakspear

Adrian is a recording and mixing engineer who has been working in recording studios since 2001. He began his career at Battery, and has since worked as an assistant at Abbey Road and Strongroom amongst others, before joining Miloco in 2006. Adrian regularly engineers for James Lewis (Stephen Budd Management) and Jim Lowe (Stereophonics) amongst others, as well as working with many unsigned and newly signed bands in a production role.

"I'm used to using Genelec monitors, primarily the 1031s (in commercial rooms) and the 1030s (in the production space I share, which also has a pair of Focal Twins which contrast nicely to the Genelecs). As with many engineers, I'm also very familiar with the ubiquitous NS10s.

"When getting sounds to record, I'd usually be using the full range near-fields (such as the Genelecs referred to above). When tracking with band members in the control room, often the main monitors will be used; plus I use an occasional check on the largest monitors for bass end – I generally find that in most studios, these aren't so accurate for reference.

"If I'm hiring a studio, I'll look for NS10s with a good amp, and a familiar set of full range near-fields – as well as the Genelecs mentioned above, I'm familiar with Adams, KRKs, Dynaudios etc... I find the quality of the room itself is generally more important than exactly what monitors are used. If the room is consistent, then I feel my ears adjust quickly to the monitors. If the room response is lumpy, it doesn't matter what monitors are being used – the sound will never be accurate.

"As well as the above, for final checking, I use a set of reasonable quality Sennheiser headphones, and a pair of Sony walkman speakers as a 'real world radio' check..."

Alan Branch

Alan Branch is London-based engineer/producer who has worked with many hit

artists over the years including U2, Primal Scream, Sinead O'Connor, Ronan Keating, The Cure, and Depeche Mode. He won a Grammy in 2010 with Jeff Beck's live recording at Ronnie Scott's. He is currently on tour with Yusuf Islam (Cat Stevens).

"I use near-field monitors most of the time: Harbeth Expressions. I have had them many years, but have used many others over my working life. Speakers are a very personal thing – I don't think there is too much of a right and wrong. However, I am often surprised at how many have them set up incorrectly: usually people have them far too wide.

"Work on your monitor placement and acoustics so you sit in the 'sweet spot'. This will make life much easier to achieve accurate mixes that will stand a better chance of sounding good wherever they are played. I find flat response speakers are the best for showing up anomalies and the best for sitting in front of for long periods of time. Bright coloured speakers will give you ear fatigue and incorrectly balanced mixes.

"Knowing your speakers for recording is key – you have to be sure of the quality of your recording, e.g., if you go into the live room and listen to a guitar amp, when you come back and listen to the microphones you want to hear the same sound, not a sweetened-coloured sound. You have to be able to hear when something is not right! I've come across engineers who have had the vocal mic the wrong way round and not been able to tell.

"As for the large monitors in a studio, they can be great for hearing the low end, but unless they are in a very accurate and well designed room they are very misleading. They are often used for impressing people that like to hear something very loud. Consequently, I have a spare set of powered (active) monitors I take with me to a hired studio and I will work 99% of the time on them.

"Most of the time now I hire a studio for recording, so it's normally for the sound or size of the live room and the facilities the studio has, i.e., the number of mics, the sound of the piano, etc. I take my own monitors so it's rarely a concern unless I am abroad.

"I use a variety of monitor playback checks, my own near-fields, a small portable stereo cassette deck type of boom box from the 80s, the infamous car speaker test, and laptop speakers. I don't use all of these on every mix but at least a few. Remembering to check mono and stereo compatibility of tracks as I mix, and occasionally I check the stereo balance of things in headphones but I never use these for balance issues."



Good Vibrations

So, you've got a monitor... what do you do with it? Acoustic oracle, White Mark's David Bell, talks to Audio Media magazine about the basics of speaker placement, rooms, and stands.

Audio Media: It's common knowledge that you can't consider speaker performance without considering the room. Could you start us off with some basics?

David Bell: A room and a set of speakers should always be considered as a unit. Both influence what you hear, and the interaction between both influences what you hear almost as much as the choice of either.

So, if you to have a production space with free-standing speakers and you put the speakers largely where they need to be, and symmetrically in the room, the room will interact with the speakers in a number of ways. It will itself have modes which will cause bass colouration, and the positioning of the speakers will alter the interaction of the speaker with the boundaries. By that I mean it will reflect off the walls and you'll have 'coherent interference'. This will cause notch filtering, and is principally noted in the lower mid and the upper bass, which is really where the character of voices is stored.

Even free-standing speakers ought to be set up by someone who knows what they're doing. You will get interaction between the walls, the ceiling, the floor, the speaker, and you. You need to optimise that. You can do this by listening to stuff that you know well, and adjusting the speaker position – moving it six inches will make a huge difference.

As a fundamental thing, it's a good idea not to have it the same distance from the floor, the ceiling, and both walls so that the interactive effects of those boundaries are not lying on top of each other, and therefore smeared a bit.

A second thing is that the speaker is trying to give you a full bandwidth of output out of its speaker cones. It should be borne in mind that as frequency goes down, as much will come out of the back of the speaker as comes out the front. The tweeter fires higher frequencies forwards in a cone – it's directional. It becomes less directional as the frequency its carrying goes down to a wavelength comparable to its diameter and larger.

The same is true of the midrange and the bass, but the bass tends to be much more 360-degrees radiating, because basically the box vibrates.

On A Sure Footing

AM: What advice do you have on stands?

DB: You need to mount it on something solid, so that the mounting you've got doesn't absorb frequencies specific to the mounting... This is particularly true where you've got a nice bit of furniture, and you've got a computer keyboard and a little mixer, and you stand the speakers on a little bookshelf shelf at the top of it. At least put a paving slab on top – something heavy that the speaker can run against.

There's an awful lot of rubbish talked about high end, really expensive, rubbed-against-the-thighs-of-virgins magnesium-alloy... What you want is a sodding great heavy thing to stand your speakers on – and it's no good putting it on a wonderful speaker stand, wonderfully linked up to a diaphragmatic wooden floor, because that's just the same. Although if your speaker stand is full of lead, it's then going to be quite heavy, so the resonant frequency of the floor membrane it's standing on is going to be much lower.

AM: Is there any sense in de-coupling speakers – by using foam products, for example?

DB: You have to be careful. If you get a piece of foam and stand a speaker on it, the frequency at which it is de-coupled – the resonant frequency of that compressed, sprung system – is proportional to some interesting constants, times one over the deflection. The further you deflect it, the lower the frequency it works at.

We try to get our floors to deflect about 6-8mm, and that gives you between 8-14Hz resonant frequency. So anything from double that up – from 20Hz up – is then de-coupled... But if you've got, say, 2mm of deflection, your resonant frequency would be higher, and would only clear once you're well into the audible range. Thus, you've got a problem at the bottom end – it's getting absorbed by stuff that's not very

well de-coupled.

This is why proper mounts are better than bits of plastic. They manufacture them so that if you put a certain weight on it, you will get 8mm of deflection, and it's known to be within the elastic limit of the squashy stuff, so that it will work properly at that frequency.

Up The Ante

AM: What about moving on to bigger rooms, bigger speakers, and bigger budgets?

DB: You can start designing the room to try and increase the effectiveness of the room-speaker combination. One of the things you can do is to minimise the effect of bass reflection by soffit mounting the speakers – building them into the wall. This is done not just by sticking a piece of wall fabric under the speakers, but by building them into a substantial wall in a big, heavy box. We then pack the front wall – we use mineral wool, though other people do others things.

The bass end becomes more efficient because it's all going forwards. If you correctly soffit mount a speaker, you've got the early bass reflections under control. And then if you carefully design the distance between you and the walls, you can further improve those early bass reflections.

Architectural Considerations

We now need to look at the room itself. Cubic rooms are a bad plan. Everyone's heard of the various imperfect ratios of height to length to width. These all work in different ways, and to different standards; and different ratios have different devotees. But effectively when we're designing a room, as one of our clients once said: 'no-one's going to let you shave a yard off the back on the off-chance the bass is going to be better'.

But we adjust the width and the height, and as we do it we try and maintain an un-relation between the fundamental things. This is what the Dolby specification does, for example. It compares ratios and won't let you use destructive ratios. The room modes are then spread about the room.

Can't Heat The Stand?

David Bell relates a lesson in what no monitor should stand for...

"The first studio we ever built was in Paris many years ago. They mastered a mix and sent it off, but it came back with the comment that something was fundamentally wrong with the room – 'you have tonnes and tonnes of bass on this, what's going on?'.

So the studio rang us up and said, 'Help, come to Paris immediately.'

"We flew to Paris and asked them to recreate the situation in which the project had been mastered. So the guy carried in some big self-powered nearfields and stood them on television stands, hanging over the meter-bridge of the console.

We listened to the mix, and it sounded okay. Then we listened to it on the main speakers,

and it sounded absolutely horrendous, with vast amounts of bass. The client said, "There must be something wrong with the room," and I said, "I think not." We lifted the speakers off the stands, and put them on the meter-bridge of the console – it was a large console, so it was a very substantial meter-bridge – they stood directly over the legs on the meter-bridge. Lo and behold, all the bass came back.

"When we measured it, there was a 12dB per octave drop to about 75Hz when on the stand, and not when it wasn't on the stand. All the bass was going into warming the stand up, and not going into the room."

There are room modes in any room, in any space, but if you have them all occurring at different frequencies and unharmonically related to each other, then your mind can tune them out, if you like. As long as there's not a huge hole where you're never going to hear the bass at certain frequencies, the sharp holes caused by defined modes will go.

When you're balancing music, if you don't know that the euphonium is wrong because it's got a chunk missing out of the bass that the room is removing, that's a bad thing.

Band Manager

AM: What about higher frequencies?

DB: Windows, doors, consoles, and bald people provide hard surfaces for sound to reflect off, cause colouration in the mid and the top. This is where the dispersion angle of the speaker's upper frequencies becomes important, and you then have to consider the reflection paths. But again, there's only a certain amount of that you can do...

The console needs to be in front of you – if it's behind you, it's not going to work very well.

This is why I fundamentally believe that for a very good, professional, acoustically neutral response, you do need them to be set up, and you do need them to be set up properly by

someone who really knows what they're doing.

They will look at the the distribution of the bass, and the sub bass units, how they cross over and match, and unavoidable reflections within the room. It's not easy to deal with a single very, very powerful 'suck-out' caused by all three modes of the room being coincident, but if you've got clusters of suck-outs in the upper mid for instance, due to a whole series of similar reflections off different surfaces, you can generally raise that area of the output of the speaker to compensate. It's the average that you're looking at, across the frequency range.

Particularly since more and more people are moving away from mixing with one valve and a bit of variable resistance, and putting in things like computer screens – they put an expensive monitor in the front wall, and surround themselves with monitors. You can do something about it, but that's where you need to get involved with someone who really know what they're doing.

Even more critically, the creation of a unified set of sub-basses and full frequency cabinets in a surround environment is a complex set-up task that is very much best achieved by someone who knows what they're doing with digital crossovers, because you've

got time delay and very close control of the frequency parameters of the equalisers you're putting in.

Stick-on Saviours

AM: There are plenty of acoustic treatments on the market, from foam panels to high-end diffusers. Are these all valid materials?

DB: We're trying to produce an ideal, uncoloured direct feed of the loudspeaker output to your ears, so we try and suppress the early reflections, which tend to come from the side walls, the ceiling, and the front wall – so the front tends to be absorptive. We then put a load of mid and high back in again, by putting diffusers at the back.

The diffuser is designed to break up the sound – to stop it being coherent so we don't get the comb filtering effect I was talking about earlier.

There are other philosophies, and quite a few of them depend on being able to absorb everything, and then put some back. But you can't absorb everything. Look at a 64-foot organ pipe, and then tell me how you're going to absorb that with a bit of foam. The foam treatments will only work on reasonably high frequencies. In a lot of home studios people have slapped up a load of little foamy panels, and then complain about problems with bass. What they've done is taken everything else away so all they've got left is bass. If we then put bass absorption in there, we may as well just turn the volume down.

You need to absorb things at the points that are critical. You start off with an ordinary room, and then you start putting absorbers on the wall to stop early reflections; then you start considering the bass; and then you migrate slowly up towards being a full studio.

INFORMATION

www.whitemark.com



X-clamation Mark: ADAM's AX-Series Is Now Complete

ADAM Audio has launched the new A77X at the *Prolight + Sound* 2011. The new monitor completes the AX-Series of monitors, which have proven to be amongst the very best tools in professional monitoring.

X-ART: The neXt Step on the Path to Perfection

Whereas all other loudspeaker drive units act like a piston, moving air in a 1:1 ratio with regard to the motion of the driver, the ADAM X-ART design achieves an improvement in air loading by a factor of four over conventional transducers.

The new X-ART ('X' for eXtended frequency response) tweeters' fundamental principle is the very same as the former ART tweeters but with a 4dB higher efficiency, a 3dB higher maximum sound pressure level, and an increase in frequency response up to 50kHz.

The result is astounding: a clarity, airiness, and precision in the high frequencies that was not possible before. With the X-ART tweeter, ADAM reinforces its commitment to offer the best transducer systems currently available at any price.

The AX-Series

When introduced in 2010, the AX-Series included four high performance systems, ranging from the ultra-compact and fully professional A3X to the A5X, A7X, and A8X.

All models feature the X-ART tweeter. Compared to its predecessor, the legendary ART tweeter, the X-ART is even more efficient

(96dB/W/m) and handles higher SPLs along with a frequency response up to 50kHz. Furthermore, all AX-Series woofers and amplifiers have been re-engineered from scratch, with larger voice-coils and more powerful amplifiers for greater linear excursion and more output.

A3X

ADAM's smallest monitor is ideal for applications where space is limited such as desktop and other home monitoring situations. The A3X is equipped with the unmatched X-ART tweeter, a 4.5-inch mid/low frequency driver with a very light but stiff carbon fibre diaphragm for absolute transparency, and two highly efficient 25 Watt amplifiers to power each driver.

As with the A5X, the A3X also features the Stereolink, a pair of additional RCA connectors allowing the user to connect both speakers with a single cable so that the volume for both speakers can be controlled from the Gain control of either speaker.



A5X

One of ADAM's most popular speakers, the A5 has been reborn as the A5X with the proprietary X-ART tweeter, a 5.5-inch mid/woofer to reproduce frequencies below 2.5kHz, and twice the power. The speaker diaphragm is made from ultra-rigid and lightweight Carbon/



Rohacell/Glass fibre, which prevents break up resonances and produces a dynamic sound. Like other AX systems, XLR and RCA connectors are provided along with a five-year warranty.

A7X

Succeeding the critically acclaimed ADAM A7 is the A7X. It features the X-ART tweeter and a seven-inch mid/woofer featuring a larger 1.5-inch voice coil. While a 50W A/B amp drives the X-ART tweeter, a leading edge 100W Pulse Width Modulation amp drives the mid/woofer.

The front panel includes a power switch and a control for the volume that retains the volume setting independently from the on/off switch. The rear panel hosts several additional controls.



A8X

The A8X is equipped with the X-ART tweeter and an 8.5-inch carbon/Rohacell/fiberglass mid/woofer that combine seamlessly to produce a very deep yet exceptionally tight bass response.

Like the other AX-Series models, the upper corners of the A8X are beveled to minimise reflections. The large, double bass reflex tubes on the front have been specifically designed to match the mid/woofer and its large voice coil.

With a 50W amplifier for the tweeter and a 150W amplifier for the mid/woofer, the A8X has more than enough power for any application.



X-ART at a Glance:

- Velocity transformation 4:1
- Extremely high efficiency (approximately 96 dB/W/m)
- Perfectly linear impedance
- Extremely flat phase response
- Excellent directivity characteristics
- Perfect magnetic shielding



The AX-Series Reviewed:

The AX monitors have been reviewed numerous times by magazines around the globe. Some excerpts:

A3X

"...the ADAM A3X is an excellent new option."
(*Tape Op* No. 79, 2010)

"... the ADAM A3X is without a doubt the best compact speaker in this price range."
(*Audiofanzine*, 01/2011)

A5X

"On our desktop the A5X left a superb impression. In comparison, no other desktop monitor got close to that."
(*Stereo*, 10/2010)

"Lively, agile desktop monitor with an open, powerful character."
(*HiFi Digital*, 01/11)

A7X

"...a substantial improvement. ...I expect the ADAM A7X to dominate the conversation for a long time to come."
(*DV Magazine*, 05/2010)
"...sounded noticeably better in every respect."
(*Sound On Sound*, 08/2010)

A8X

"...the A8X will seduce the masses effortlessly!"
(*Audiofanzine*, 09/2010)
"...becoming a huge recommendation for the discerning listener without a bulging wallet."
(*Professional Audio*, 10/2010)
"The A8X speakers from ADAM Audio brought themselves to the forefront of all speakers reviewed..."
(*Audio Test*, 02/2011)

A77X

In some set-ups it can be advisable to use a horizontally designed speaker rather than a vertical one. Until now, such monitors were only available within the SX top line.

The brand new A77X is equipped with the same advanced technologies as the A7X and therefore very similar to the two-way speaker. The A77X, however, distinguishes itself by much higher, compression-free maximum sound pressure levels and dynamics. Due to its power and radiation characteristics, it is also perfectly suited for both near and midfield monitoring.

The A77X features the ADAM proprietary X-ART tweeter and two seven-inch woofers. With their large voice coils (1.5-inch) and powerful amplifiers, they are capable of both very high maximum sound pressure levels as well as very deep registers. The woofers do not cover the same frequency bands: while both of them are responsible for the (sub-) bass frequencies up to about 400Hz, only one of them reproduces the midrange. This prevents interferences between the two drivers.

A 50W A/B amp is responsible for the X-ART tweeter, while the bass-/midwoofers are



driven by a 100W PWM amp each. The front panel includes a power switch and a control for the volume that retains the volume setting independently from the on/off switch.

The rear panel features several additional controls: a gain for the high frequencies ($\pm 4\text{dB}$) and two shelf filters for high and low frequencies.

To ensure greater compatibility, there are both XLR (balanced) and RCA (unbalanced) connectors.

State of the ART: SX-Series

The 10 models of the SX-Series were introduced in 2009 and 2010. They are based on the highly acclaimed S-Series. However, they are not simply a revision of existing models, but are a fundamental transformation with no detail overlooked and every crucial sound

aspect evaluated. All transducers, drivers, and electronics have been redesigned. The result is much more than an improvement, it is a quantum leap in professional monitoring.

The SX-Series of monitors are some of the most sought-after products in the industry and are used as reference monitors in studios all around the globe.

A Wide Range of Subwoofers

Our subwoofers are dedicated to ADAM Audio's primary goal: the best possible authenticity in the reproduction of music. For our subwoofers, this means combining power and precision while simultaneously avoiding "impressive" bass volume at the cost of accuracy. Their task is to complement the highly acclaimed lucidity and transparency of ADAM monitors in the lower and lowest frequencies.



CONTACT DETAILS

ADAM Audio GmbH

Ederstr. 16
12059 Berlin-Germany
t +49 30-863 00 97 0
f +49 30-863 00 97 7
e info@adam-audio.com

ADAM Audio UK Ltd.
t +44 207 737 3777
e uk-info@adam-audio.com

twitter Follow us on Twitter!

facebook Join us on Facebook!

w www.adam-audio.com





Listen to Your Music, Not to Your Speakers

These few words embody the philosophy of Focal Professional, the French manufacturer of acoustic loudspeakers and transducers. From their very beginning on the drawing board in Research & Development at Focal, our professional monitors are designed to deliver one thing, at any cost: the absolute acoustic truth.

Focal Exclusive Technologies

The 'W' Composite Sandwich Cone

Focal has been developing composite sandwich cones for the last 15 years. The fruit of that research, the 'W' structure (glass/foam/glass) used in every Focal Professional product, allows for a truly optimised response right from the start, thanks to the precise control of rigidity, weight, and damping capacity of the cone. The balance between these three fundamental and often contradictory parameters is the very basis of the exceptional sonic neutrality of our speakers.



The Be Tweeter

Since the very beginning, Focal has favoured inverted dome tweeters, but the introduction of the pure Beryllium dome, capable of covering five full octaves from 1,000Hz to 40kHz, has simply revolutionised high frequency spectrum reproduction. This tweeter's capacity to go as high as 40kHz without any artifacts enables it to reproduce high frequencies with unmatched speed and transparency. At first the pure Beryllium tweeter was only available on the very high-end digital speakers of the Focal Professional line (SM11), but now it is also featured on the SM6 series, allowing an unprecedented price/performance ratio.



SM9 series

The REFERENCE Three-Way Monitor

The SM9 was born out of a simple idea: create the most sonically transparent monitoring system ever built. The SM9 features a frequency response from 30Hz to 40kHz with an SPL max of 116dB. This monitoring speaker establishes itself as a reference thanks to the precision of the stereo image, its capacity to reproduce each of the micro details of the audio signal, as well as unconditional respect of the original dynamics.



Two Monitors In One!

One of the major innovations of the SM9 lies in its offering two monitoring speakers in only one, unique cabinet. The activation of this monitor is made by setting off the FOCUS mode on the side panel. The two-way monitor (Beryllium tweeter + 6.5-inch W woofer) offers a frequency response from 90Hz to 20kHz, allowing you to check the mix transfer quality on systems with limited frequency response in bass frequencies such as:

- TV sets
- Computers
- Cars
- iPod® docks or any multimedia system.

This monitor also allows you to check the midrange register – very hard to equalise and balance in terms of sound level compared to other information contained in the audio signal.

The Focal Professional Monitoring Range

Looking for the Ultimate Tool

SM6 Series

The now famous SM6 series has been developed for professional engineers who are seeking absolutely neutral sound and sound stage precision for recording, mixing, and mastering studios. The SM6 series is composed of three references: Solo6 Be, Twin6 Be, and Sub6.

Solo6 Be

Two-way, analogue professional nearfield monitor (150 + 100W RMS Bash® technology), 6.5-inch 'W' composite sandwich cone driver, one-inch pure Beryllium inverted dome tweeter. Frequency response (+/-2dB): 40Hz- 40kHz. Max SPL @1m: 113dB.



Twin6 Be

Three-way, analogue professional nearfield/ midfield monitor (2x150 + 100W RMS Bash® technology), 2x6.5-inch 'W' composite sandwich cone driver, one-inch pure Beryllium inverted dome tweeter. Frequency response (+/-2dB): 40Hz-40kHz. Max SPL @1m: 115dB.



Sub6

Analogue subwoofer (1x350W RMS Bash® technology), 11-inch 'W' composite sandwich cone subwoofer. Frequency response (+/-2dB): 30Hz- 250Hz. Max SPL @1m: 116dB.



11



Three-Way Revolution – The Multi-Award Winning Genelec 8260A DSP Monitoring System.

Since its launch the 8260A has been a phenomenal success, winning numerous awards and plaudits from all sections of the audio industry. What is the secret to its success?

The Genelec 8260A is truly a revolutionary loudspeaker.

Developing a multi-award winning monitor doesn't happen overnight, and the Genelec 8260A is the result of almost 35 years of manufacturing experience. Since the beginning, professional audio monitoring has been at the core of Genelec's business. An unrivalled commitment to research and development of new products has resulted in a number of industry firsts and established the company as the leader in active monitors. Furthermore, the very latest Genelec monitoring products remain true to the original philosophy and offer reliability, neutral sound reproduction (regardless of size), and the ability to adapt frequency response to the listening environment. The 8260A incorporates these qualities, as well as building on them to create a product that offers a new blueprint in audio monitoring.

Background

The Genelec 8260A offers all the sonic benefits of a three-way system in a compact enclosure. With a three-way system higher sound levels can be achieved due to the separate mid-range channel, which can be optimised for that frequency range. This improved performance usually comes at the cost of having to make a larger enclosure. A small enclosure does not have the space for directivity control in the mid-range and at high frequency, which results in more audible room effects. A larger three-way enclosure allows for proper directivity wave control.

The 1022A, introduced in 1985, was the first Genelec product to feature the proprietary directivity wave-guides (DCW™) with spaced mid-range and tweeter drivers. The DCW™ has since been widely adopted and become an industry standard. Genelec continued to work on maximising enclosure space and started to

develop a new coaxial driver that would combine mid and high-range range frequencies for improved directivity control.

The basic principle of a coaxial driver is to place the high frequency driver at the apex of the low frequency diaphragm. By doing so, the apparent source location does not depend on the frequency and directivity of both drivers as they can be controlled in the crossover region. Furthermore, coaxial technology utilises less front panel space than a comparable design featuring spaced drivers. That said, there can be drawbacks with conventional coaxial designs. For example, woofer cone movement can cause inter-modulation and Doppler distortion to the tweeter radiation. Also, most current woofer-tweeter constructions have inherent acoustic discontinuities that show as uneven on-axis HF response. These shortcomings will show up in certain applications that desire a high degree of accuracy. The common challenge for all coaxial designs is how to avoid the acoustical discontinuities and their effects on the response.

The MDC Solution

The Genelec MDC™ (Minimum Diffraction Coaxial) driver solution benefits from typical coaxial design advantages while also overcoming their shortcomings. This is done by

taking a simple approach: tackle the problem at its root. The main structure of the MDC™ tweeter mid-range consists of an integrated MF diaphragm-suspension tweeter. The visible part of the coaxial driver is formed by the curved flexible foam surface with the dome tweeter assembly at its centre. There is no conventional spider, and the suspension is made of foam

over the entire cone. Inner and outer suspensions are dimensioned to eliminate possible nonlinearities and create a linear total suspension system.

The 8260A combines for the first time a coaxial driver (MDC™) within a modern waveguide (DCW™), ensuring drivers to couple coherently over their full operating bandwidth as well as being a single MF/HF coincident point source. The inner section joins the cone to the tweeter structure without any acoustical discontinuity and the outer one does the same between the cone and the driver chassis. In this way there



The Genelec Minimum Diffraction Coaxial (MDC™) driver.

are no acoustically observable discontinuities between the tweeter and the cone, and no diffraction either. The cone profile is optimised to form an integrated directivity control waveguide for tweeter radiation. This coaxial design provides improved imaging and overall sound quality both on and off axis, as well as an extremely smooth frequency response leading to outstanding clarity and definition of the inner details of the music being played.



Genelec 8260A monitoring system in Belgian broadcaster VRT's new premises.



Genelec 8260A – Specifications

- 20-40000 Hz (-3dB), typically after AutoCal
- 120 dB peak SPL per pair for music material
- 10-inch woofer in a vented aluminum enclosure
- 5-inch MF + ¾-inch HF Minimum Diffraction Coaxial (MDC™) driver combined with an advanced Directivity Control Waveguide (DCW™)
- DSP crossovers, room response control Autocal™, and network control GLM™
- 150W LF, 120W MF, and 120W HF amplifiers
- H x W x D 593 x 358 x 344 mm, (23 3/8-inch x 14 1/8-inch x 13 1/2-inch) with Iso-Pod™
- 27.5 kg (60.5 lb)

Enclosure Design

The 8260A uses a die-cast aluminium enclosure for improved low frequency efficiency and volume control. The LF cut-off is 26Hz (-3dB). The curved surfaces are inherently rigid giving structural resonances at higher frequencies that are easily damped. Heat generated in the power amplifiers is also effectively conducted away for improved system reliability. The Iso-Pod™ vibration isolation stand stops whole enclosure vibration and allows vertical tilting to allow easy aiming at the listening position.



Back panel of the Genelec 8260A active monitor.

DSP

DSP (digital signal processing) allows for steep crossover filters with high stop band attenuation. The combination of the MDC™ coaxial mid-range tweeter driver, DCW™, and MDE™ enclosure design are complemented by steep crossover filters to minimise co-radiation from any drivers within frequency range. In the 8260A it concerns only the woofer mid-range crossover where vertical directivity changes are small. The 8260A also features six fully configurable notch filters, as well as two high and low frequency shelving filters for room alignment and calibration. All have wide adjustment ranges.

The DSP hardware is a true three-way design with the driver feed signals for tweeter,

mid-range, and woofer all fed into their own DA converters, then to separate power amplifiers and finally onto each drive unit. The power amplifiers are physically integrated into the enclosure walls to enable very efficient heat transfer when the loudspeaker is heavily loaded. This ensures high system reliability in stressful operating conditions.

GLM User Interface

The GLM™ Software provides all the necessary means to set-up, calibrate, and control the system set up. It features a sophisticated graphical user interface and offers acoustic calibration and system alignment through the AutoCal™ function. GLM™ manages the 8260A like any other Genelec DSP loudspeaker, so it is possible to mix other DSP system speakers. This gives great freedom in designing system setups.



With AutoCal™, loudspeakers are automatically calibrated to the room environment.

Conclusion

The 8260A represents a stunning technical design achievement. It is a masterpiece in electro-acoustic system thinking as all elements (mechanical, acoustical, and signal processing) are intimately linked together in a cohesive way. Combined with the DSP features the result is a loudspeaker that is capable of outstanding performance in a wide variety of challenging environments.

GENELEC®

CONTACT DETAILS

Genelec Oy
 Olvitie 5
 FI-74100 Iisalmi, Finland
 t +358 17 83881
 w www.genelec.com
 e genelec@genelec.com

Our Focus. Your Mix.



KRK is driven by a design philosophy of accuracy, transparency, and flat response. Our products deliver on this promise through a combination of solid design and product innovation. KRK monitors are tools that are cherished by their owners as partners in crafting great music and mixes.

Honest Voices. Straight Talk.

A studio monitor is a tool used to aurally 'measure' the changes in an audio path. Ask any seasoned recording professional what they think makes a great studio monitor and you'll get basically the same answer: "Accuracy, transparency, flat response, and the truth." In other words...honesty. Simply put, recording engineers want the electrical signal entering their monitor to be reproduced mechanically by the transducers and they want this to occur without any deviation or compromise to the original signal. Professionals depend upon their monitors to deliver their artistic vision in a way that will translate as accurately as possible to a variety of audio mediums. The following four music professionals have honed their craft of creating music and in turn they are offering their honest voices about studio monitors.

Jacquire King – Record Producer/ Mixer/Engineer

When something works, why switch? King is a 2009

Record of the Year Grammy Award winner with Angelo Petraglia for the Kings of Leon's *Use Somebody*. "For monitoring, I've used the KRK Rokit 5's for a little more than four years. I was using NS-10s in the tracking studio at the time. I'd been looking for an alternative and soon after got a pair of the Rokit 5s. These monitors are true and consistent. They are not hyped sounding and make you work for a great result, which I like. They have plenty of bottom-end and when the mix is sounding huge on them then I know I'm finished."



**Henri 'MGI' Lanz –
Producer/Songwriter**
This Finnish born, 25-year-old producer/songwriter is a perfect example of a modern



hit maker. MGI has produced and written songs for and with Akon, Sean Kingston, Timbaland, Pitbull, Justin Bieber, Jim Jonsin... and the list goes on. His productions include various Gold and Platinum selling records all over the world. "I've used KRKs for about two years now. When I first heard them, I really loved the way the VXT series sounded. No matter what the location is I need to be 100% sure how the mix is going to sound wherever I am."

Stuart Brawley – Producer/ Engineer

Stuart is a gifted musician, arranger, and orchestrator, and prides himself on being a chameleon, comfortable working with rock bands like Aerosmith or classical singers like Josh Groban. His private recording studio is loaded with the latest digital recording technology along with an eclectic array of analogue modules and vintage instruments. Working in an acoustic environment that is less-than-perfect provides Stuart with added challenges. These deficiencies are overcome using KRK's ERGO room correction. When working on projects with multiple producers and artists, Stuart says, "Everyone must be listening to the truth."



Rodney 'Darkchild' Jenkins – Producer

After 15 years in the business and a string of successes with artists like Lady Gaga, Beyoncé, Britney Spears and Mary J. Blige, Rodney 'Darkchild' Jenkins is a voice of experience. A KRK user for almost a decade, his studios in L.A., New Jersey, Florida, and at his home all feature a mix of Expose, VXT, and Rokit

monitors. "I look for something that's tight, that's punchy, that still has the low-end, but still has the pristine clarity up top. KRK is literally the foundation of my sound."



The Popular Rokit Line Expands with the RP 10-3 Three-Way Mid-Field

The Rokit RP10-3 is a mid-field three-way monitor system in a compact form factor and at a breakthrough price that delivers loud and accurate sound reproduction to satisfy professional needs. The RP10-3 will suit commercial facilities as well as space and budget conscious private studios. The 'pro-studio' appearance of this monitor will visually impress, and the high SPL output makes it capable of handling challenging high-dynamic tracks for all genres of music.

As part of the KRK Rokit Series of monitors including the Rokit 5, 6, and 8, the Rokit 10-3 adds true mid-field performance to give studios the creative edge.

"With its unique rotatable tweeter/mid-range speaker mount plate, high SPL capability, and sleek looks, the KRK Rokit RP10-3 will be undoubtedly be finding a home in a lot of good studios in the very near future."
dvMagazine



15



Ultimate Monitoring

PMC monitor systems are in service with most of the world's premiere music and film sound recording studios, broadcast companies, post production, and audio mastering facilities.

PMC is a world-leading manufacturer of professional speaker systems, which has been setting the standards for monitoring for the past twenty years. The company's first product, the BB5-A, an active monitor, was installed at the BBC Maida Vale studios and Metropolis Mastering. It remains the world's reference and is used by Prince, Stevie Wonder's Wonderland Studio, Hospital HDTV Broadcast, and classical labels like Decca and Harmonia Mundi. Many of the biggest movie themes have been recorded using PMC, and the company is one of the very few to have been awarded an Emmy® for its contribution to recording excellence.

All of the company's monitors, from the small DB1S+ to the flagship BB5 XBD-A, feature its unique Advanced Transmission Line (ATL™) technology. This provides a near identical, high resolution, wide bandwidth signal response across the entire product range.

Design Philosophy

PMC's philosophy for monitor design is simple: to design the ideal monitoring solution for all sizes of installation, with the highest resolution possible and without colouration and distortion. Extensive R&D in to the ATL and drive unit technology, coupled with the company's close associations with leading engineers, enables the designs to keep up with the latest recording techniques and changing monitoring environments. All products are voiced identically and the balance is neutral and dynamic with wide dispersion, making image placement pin-point accurate over a huge listening window.



BB5 XBD.

The Correct Tool for the Job

The DB1S+ is the latest incarnation of the world's smallest transmission line design, with an effective line length of 1.5m in a tiny, heavily damped cabinet. It has outstanding dynamics, exceptional sound staging, and depth of bass that would suggest a much larger loudspeaker. Available as an active version, the DB1S-AII, with PMC's ultra clean DS-001 amplifier, both models are ideal for situations where space is at a premium, but quality must not be compromised.

Its larger brother, the TB2S-AII, also fitted with the DS-001, but with a larger 6.5-inch LF



DB1S-AII

driver, has become a firm favourite with quality conscious broadcasters, post production, and smaller sized studios in either surround or stereo nearfield roles.

The IB1S-A is an extremely flexible three-way monitor, which has proved hugely popular in Hollywood film scoring and post-production. It features wide dispersion, soft domed, mid and HF units, and the patented PMC

10-inch carbon fibre and Nomex™ flat piston driver, which increases dynamic handling and eliminates distortion that can occur due to cone break up.



IB1S.

Advanced Transmission Line (ATL™)

The PMC ATL design has enormous benefits compared to sealed and ported models. The main driver is placed at one end of a long tunnel (the transmission line), which is heavily damped with PMC's proprietary acoustic material, specified to absorb the upper bass frequencies radiating from the rear of the driver. The lowest frequencies emerge in phase from the large vent at the end of the line, effectively acting as a second driver. The air pressure behind the driver is maintained, controlling it in a vice-like grip over a wide frequency range, eradicating spurious cone movement that would lead to distortion. The upper bass and midrange is therefore entirely transparent, as it is not masked by harmonic distortion residing in the very low frequencies. ATL produces higher SPLs and deeper bass extension than any other design of a similar size. The frequency response also remains consistent regardless of volume. Neither late night listening, nor prolonged monitoring sessions have to be conducted at high volumes to achieve maximum bass response – ideal for the home studio and professional alike.



The Advanced Transmission Line.

MONITORS 2011

ORS++++ PMC MONITORS++++ PMC MONITORS++++ PMC MONITORS++++ PMC MONITORS++++ PMC

AML2

The AML1 was acclaimed as one of the best compact active loudspeakers. The true analogue amplifier circuitry design offered unsurpassed performance via the custom PMC series flat Nomex 6-inch LF driver and the ultra powerful 32mm HF with wide angle dispersion.

The AML2 takes the design further with newly introduced micro engineered EQ tilt circuitry, enhanced power supplies, revised cabinet structure with additional damping, and subtly revised cosmetics.

This no-compromise design offers performance that cannot be matched by any other speaker of a similar size and volume. The unique driver arrangement with a crossover point of only 1400Hz enables the AML to deliver astoundingly accurate portrayal of any music or speech.

As legendary producer, T Bone Burnett said, "I love these speakers. The AML2s are incredibly useful small speakers with great depth, clarity and volume."



AML2.

Don't just take our word for it...

No other loudspeaker manufacturer can boast a client list as long and distinguished as PMC. Here's just a small selection of them:

BBC Radio, London
BBC Maida Vale, London
Capital Records, Los Angeles
Dolby Laboratories, San Francisco
Emil Berliner/Deutsche Grammophon, Berlin
Final Stage Mastering, Nashville
Hospital HDTV Broadcast Studios, London
Metropolis Studios & Mastering, London
NFL, USA
Teldex, Berlin
Universal Music Group, New York



Metropolis, London.



Brian May and MB1.

And take a look at what some of them have to say:

"Truly Another World", Brian May, Queen (MB1s)

"The MB1s have it all!" Paul Klingberd
Maurice White (Earth Wind & Fire)

"The BB5-XBD-A system is perfect for our needs."
Dave Hampton (Prince)

"PMC were at the same time highly analytical for all kinds of
music." Tobias Lehmann, Teldex, Berlin (BB5 and MB2)

"The first mixes I heard on the AML2s revealed details that I had not heard before."

Mike Piersante (Elton John, Leon Russell)

"We had the PMCs on approval but after only two weeks we were as convinced as our clients."

Goetz-Michael Rieth, Emil Berliner Studios (MB2 XBD-A)

"They are f**king brilliant" Francis Rossi (Status Quo) (IB2S)

IB2S-A and IB2S XBD-A

The new cutting-edge digitally active reference loudspeakers, the IB2S-A and the twin-cabinet IB2S XBD-A, deliver the full-scale dynamics and no-compromise performance of the BB5 XBD-A, in a smaller package.

With 1520 watts of PMC designed amplification and DSP control, the IB2S XBD-A features ATL technology, to produce low distortion bass output to below 20Hz. The XBD bass unit adds +3dB of LF headroom, for a smoother room response and the ability to drive larger environments.

The IB2S XBD-A features user adjustable HF and LF shelving filters, per channel +/- 8dB input trim levels, an AES3 digital input, and the ability to adjust the input sensitivity of the balanced analogue inputs.



IB2
XBDS-A.



PMC Ltd

43-45 Crawley Green Road
Luton, Bedfordshire LU20AA UK
t +44 (0) 870 444 1044
f +44 (0) 870 444 1045

e sales@promonitor.co.uk

w www.pmc-speakers.com

Prism Media Products Inc.

17971 Sky Park Circle Drive
Suite G Irvine, California 92614 USA
t +1 949 861 3350
f +1 949 861 3352
e sales@pmc-speakers.us
w www.pmc-speakers.com

The use of the Radial™ LF drivers heralds the introduction of the MB2S-A and BB5-A models. With the PMC 75 midrange, the 12-inch LF equipped MB2S-A and 15-inch LF BB5-A are truly no compromise designs. Every element has been designed and manufactured purely for its performance and encompasses the smallest detail from individual cable



choice through to hand selection of capacitors in the active crossover networks.

Both the MB2S-A and BB5-A can be augmented with an additional matching LF unit in the XBD cabinet, to create the MB2S XBD-A or BB5 XBD-A. The latter can only be described as the "ultimate monitor" and is the reference, in use at many of the premier facilities across the world.



Andy Munro, Munro Acoustics

Egg

The evolution of speakers.

A collaboration between Andy Munro and sE Electronics, the Egg is the world's first Active Integrated Monitoring System (AIMS) – combining state of the art modelling technology to produce the perfect speaker chassis, with a fully integrated, custom built amplification system.

"The Egg is a radically different concept in loudspeaker design. Although it has been known for many years that cabinet resonances and diffraction are the main causes of coloration in sound radiation, few manufacturers have been willing to address the difficulty of forming a rigid acoustic enclosure of such complex geometry. By removing step changes in radiation impedance and virtually all internal vibration modes. The Egg has no spectral distortion other than the drivers themselves. These have been chosen for the best possible performance in their class and exhaustive testing has proved their reliability and accuracy.

The result is a stunningly accurate and truthful monitor speaker that is genuinely unique in both looks and accuracy, regardless of price comparison with much more expensive products. Electronically the Egg is equally impressive with true bi-amplification with linear power supply and full protection against overload and short circuits. The lack of distortion in high level transients and the uncompressed acoustic power will be a revelation to those used to typical small, active monitors.

The crossovers are fully active and have been digitally modelled and matched to give near perfect phase and transient response. The result is a fast acting speaker that further enhances the impression of absolute accuracy.

This means the sound can be unforgiving. Bad mixes will sound embarrassing and that won't please everyone but those who want the truth will find it here."

Andy Munro

Egg – The evolution of speakers

The Egg is the world's first Active Integrated Monitoring System (A.I.M.S) – combining state of the art modelling technology to produce the perfect speaker chassis, with a fully integrated, custom built amplification system unique to the speakers. Neither component may be matched to other speakers or amps as they are designed specifically to work in perfect balance with each other.

The requirement to preserve the integrity of the speaker enclosure presented a number of key advantages in terms of flexibility and control, which the more traditional 'amp in the box' active monitors lack.

1. Fine tuning of EQ from the amp means you don't have to climb behind the monitors to make changes, so you can stay within the 'sweet spot' and listen, live, to changes in set up as you make them.
2. Unique to the Egg is its Mid-Band EQ. The sE10 switch enables the engineer to listen to a ruler- flat reference, a deliberately contoured 'NS10' type balance or a slightly more forgiving 'smiley face' response for HiFi emulation.
3. Two pairs of inputs are provided with A/B switching between mix and playback sources as well as Master Volume and room related fine tune EQ. This allows the user to listen via a CD player, iPod etc direct into the Aux inputs without having to route through a mixer, and therefore without having to boot

up and run an entire studio set-up just to listen to material. It also allows for mastered and unmastered material to be A/B'd, level matched, so that changes in the source material due to the mastering process can be easily heard.

The Egg is fully bi-amped for maximum headroom and driver control. The power output devices are fully impedance matched to the speakers and unconditionally protected against cable malfunctions! LED indicators monitor and indicate when to stop turning up the volume!

In short The Egg represents the culmination of a life-time of work from two of the Industry's greatest designers.

The result, the closest thing to perfect sound reproduction you may ever hear.



Egg

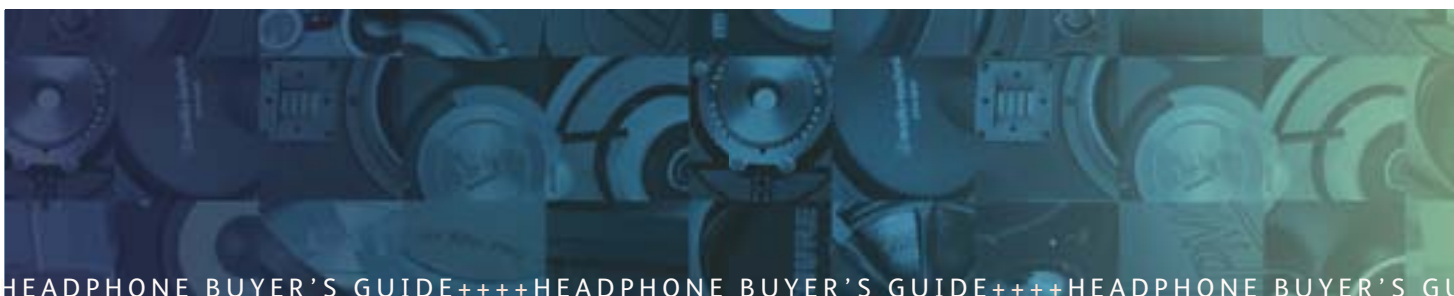


The evolution of speakers.

0845.500.2.500
www.sonic-distribution.com

SONIC

SE *Munro*
MUNRO ACOUSTICS SE ELECTRONICS



Headphone buyer's guide

Who knew there was so much to know? Here, *Audio Media* distills the headphone world down to its essence and finds out what audio professionals really need to know before buying their next pair of cans.

The first step towards choosing a pair is to identify the design features that best suit your needs. In an attempt to narrow any prospective search, we consulted with Sennheiser's Axel Grell, and Audio-Technica's Logan Helps to gain a balanced expert opinion on a few common considerations.

Closed Back Or Open Back?

Open backed headphones allow acoustical energy to leave the system through the back of each earpiece, which means less resonance and better sound quality than a closed system. Closed back headphones use materials to dampen that energy, which adds extra weight and impacts the nature of the sound.

Open back headphones can also be less tiring for your ears, so are worth considering if you plan to use them for long periods. For these reasons, open back headphones are more commonly used for high end studio mixing.

The disadvantage of open back headphones is the lack of isolation. You can hear whatever is happening around you, and others will hear whatever you're listening to. A closed system typically provides isolation of around 30-40 dB.

Conclusion: Open back for long periods where interference isn't a concern, closed back if you need to compete with background noise.

Circumaural Or Supra-Aural?

Circumaural headphones have large ear pads with an elliptical cushion that circles the ear. Supra-aural headphones (like the ones that came bundled with personal stereos in the 80s) sit on top of your ears.

Circumaural headphones should be more comfortable for extensive use, as the elliptical cushions contact each side of your head to remove pressure from your ears. These cushions can also provide extra isolation.

Supra-aural headphones can be more convenient for location sound as they tend to be significantly smaller. It is also possible to play sounds more loudly through supra-aurals, as the acoustical volume being moved is smaller, resulting in higher sound pressure levels for the same amount of energy.

Conclusion: Circumaural if you intend to use them for long periods; supra-aural if portability is a major concern.



"Closed back headphones use materials to dampen that energy, which adds extra weight and impacts the nature of the sound."

Heavy Or Lightweight?

Our experts agreed that lightweight headphones were more comfortable, and therefore more desirable than heavy ones. Crucially, lower weight results in less pressure being applied to the user's head and ears. They also agreed that the overall weight had no bearing on sound quality. The only exception was in the magnet system, which has to be the right size to provide sufficient power.

Conclusion: Lightweight.

Which Materials?

Ideal materials for headphones are lightweight and non-resonant. Commonly used materials include magnesium, aluminium, and high tech plastics.

For constructive parts, Axel Grell prefers a good plastic material. "Good means not a cheap ABS or something like that," he explains.

"The better choice, from an acoustic point of view, is to use plastic materials that have an inner damping." When metal parts are used, extra material is necessary to dampen resonance. "Plastic parts are more expensive," he adds. "It takes really high tech plastic to get the same stability of the part as there would be with magnesium."

Conclusion: High tech plastic if you want lightweight headphones that sound good, metal if you like shiny things.



"Crucially, lower weight results in less pressure being applied to the user's head and ears. They also agreed that the overall weight had no bearing on sound quality."

Transducers

By far the most commonly used transducer design is the dynamic, moving-coil, driver. These drivers use a stationary magnet and a wire voice coil to move a stiff diaphragm. However, within this design paradigm, several manufacturers have introduced their own design principles and proprietary elements.

Logan Helps describes transducers as "the envelope that's continually being pushed." Axel Grell tells us that "there are different design principles, but they are not so very different."

Axel is in contact from time to time with colleagues at Beyerdynamic and AKG. "We have different philosophies, but we agree that the driver is the most important thing," he explains. "We've all spent a lot of money on computer simulation models to improve the diaphragm, with different results."

Conclusion: You get what you pay for.

Coping With Marketing

As we all know from TV shampoo adverts, marketing places particular emphasis on certain keywords. In the case of headphones, these tend to (justifiably) revolve around transducer design; 'computer optimised transducers', 'patented phase technology', 'optimised magnet systems', etc. While these things are all great, they don't tell us much other than that we should go out and buy them. The quality of any given headphone is certainly influenced by these things, but it also equally comes down to a multitude of less sexy factors that don't lend themselves as well to buzzwords. Factors like the quality of the wire in the voice coil, and the kind of glue that's used to attach the diaphragm. These kinds of details are less readily available, but will make a noticeable difference to sound reproduction.

Conclusion: We hope that this guide will help to narrow your search. However, the best way to make a final decision is also the most obvious, listen to lots of different sets and see for yourself.



HARMAN's AKG Raises Industry Headphone Standards

AKG's Quincy Jones Signature Line of professional-grade headphones provide clear, precise, and reliable sound from the street to the studio.

With a rich history of providing professional-grade, headphone solutions, HARMAN's AKG has recently unveiled two lines of products, which underscore its leadership in the international markets of consumer and professional audio. The Quincy Jones Signature Line of personal headphones and the MKII Professional hi-fi studio headphones combine reliability, quality, and style for all ears.

Created with Passion and Soul
Working together with music legend Quincy Jones, AKG's partnership with the 79-time GRAMMY® nominee and 27-time award winning producer has resulted in three models of premium headphones: the Q701 reference-class premium over-ears, the Q460 high-performance portable on-ear mini, and the Q350 in-ear headphones. Combining AKG's highest standards of audio for the perfect sound, music lovers around the world can not only enjoy, but also truly experience the art of music as it was designed.

"Music is so much more than notes on a sheet of paper," Jones said. "When it's created with passion, with soul, we get something that is greater than ourselves – and it can move us deeply. Throughout my entire career, I have trusted only AKG to deliver the highest standard of sound – the same standard I hold myself to when I make my music."

A share of the proceeds from every set of headphones sold in the Quincy Jones Signature Line by AKG will go toward the Quincy Jones Musiq Consortium, a foundation dedicated to making music education an ongoing part of the lives of American children.

HARMAN's AKG teams with Quincy Jones, producer of the best selling album and single of all time, *Thriller* and *We Are the World*, respectively, for a combined tribute to sound – the Quincy Jones Signature Line of Headphones.
www.ake.com/Quincy.



AKG's K 271 MKII professional circumaural hi-fi stereo headphones, complete with a self-adjusting headband, patented Varimotion speakers, and high noise attenuation.

All-Purpose Studio Applications
On the professional level, AKG also offers its line of hi-fi stereo headphones, K 141 MKII, K 171 MKII, K 240 MKII and K 271 MKII. From the DJ and broadcast booth, to the studio and on-stage applications, each set is perfectly designed to meet the high demand for efficient

and reliable equipment in the high-energy fields of professional audio.

With each model, users receive the ultimate comfort with a choice of interchangeable leatherette or velvet ear pads and a single-sided, detachable 3m cable and 5m coiled cable.

The K 141 delivers higher sensitivity, dynamic range, and higher SPL, with an undistorted sound at high levels and lower impedance abilities to use with lower output devices such as computers.

The K 171 offers a closed-back design and is ideal for DJ and broadcast applications, designed to prevent sound bleeding. It is ruggedly designed to handle the most demanding environments.

The K 240 offers gold-plated plugs on its OFC cable, providing optimum sound for lower impedance and lower output audio, while the K 271 boasts a switch in the headband that mutes the audio as soon as the headphones are taken off.

"HARMAN's AKG has long worked to provide its customers the best solution in miking and head-worn applications, and each of the Quincy Jones and MKII headphones are another step to further build AKG's reputation for quality and reliability," stated Alfred Reinprecht,

VP, Marketing and Product Development, AKG. "Whether dealing with the professional in a studio or a music fan with his MP3 player, AKG

AKG's friends include:
Brooks & Dunn, Missy Elliot, The Faint, Jon Hiseman, Alejandro Sanz, Sepultura, Steve Stevens, Kanye West, Trey Songz, and other international superstars.

continuously works to keep the customer ahead of the industry through its precise, leading technology."

HARMAN (www.harman.com) designs, manufactures, and markets a wide range of audio and infotainment solutions for the automotive, consumer, and professional markets –

supported by 15 leading brands including AKG®, Harman Kardon®, Infinity®, JBL®, Lexicon® and Mark Levinson®. The Company is admired by audiophiles across multiple generations and supports leading professional entertainers and the venues where they perform. More than 20 million automobiles on the road today are equipped with HARMAN audio and infotainment systems. HARMAN has a workforce of about 11,800 people across the Americas, Europe, and Asia, and reported sales of \$3.5 billion for the twelve months ended December 31, 2010. The Company's shares are traded on the New York Stock Exchange under the symbol NYSE:HAR.



AKG Acoustics GmbH

Lembockgasse 21-25, A-1230 Vienna, Austria
t +43 (0)1 86654-8800
e sales@akg.com

AKG 8500 Balboa Blvd.
Northridge, CA 91329
t +1 818 920 3212
e akgusa@harman.com

For a complete list of AKG distributors, please visit www.ake.com/distributors.



Headphones For The World's Most Demanding Ears

With an established history as a leading headphone manufacturer, Audio-Technica's current monitoring headphone range caters for professionals working in live, studio, and DJ settings at the highest level.

Since 1962 Audio-Technica has devoted itself to the design and manufacture of high performance, innovative audio equipment that sets quality and price/performance standards in live sound, broadcast, recording situations, and more. Well-known for its comprehensive range of stage and studio microphones, the company also produces professional monitoring headphones used by producers and engineers including Frank Filipetti, Al Schmitt, Andy Hawkins and Guy Fletcher, and with artists as diverse as Mark Knopfler, the Pigeon Detectives, and Opeth.

Live And Studio Music Production

The company's flagship ATH-M50 headphones typify Audio-Technica's dedication to great-sounding, highly functional headphone products. Designed specifically



Audio-Technica's ATH-M50, relied on by Grammy Award winners Massenburg, Cherney, and Filipetti.

for demanding monitoring and mixing environments, the M50 delivers exceptionally accurate response with long-wearing listening comfort. Proprietary 45mm drivers with neodymium magnets are employed for an extended frequency response and detailed bass sound. High SPL handling is another of the M50's benefits, ensuring plenty of headroom no matter what material they are used to track or mix.

With comfort of equal importance to professional users, the M50's circumaural earpieces are luxuriously padded (also creating an outstanding seal against environmental noise), as is the adjustable headband.

The earpieces also swivel for easy one-ear monitoring, and the headphones feature a collapsible design for easy storage and portability.

The affordable ATH-M35 is another highlight in Audio-Technica's pro headphone range, created for field recording and studio work. Here, 40mm drivers form the heart of the M35 earpiece, providing perfectly balanced tone and impressive power handling. Like the top-end M50, the M35's folding design makes them the perfect partner for use in the studio and on the road. Despite their affordable price point, the M35 gives little away in terms of premium quality componentry and is supplied with a single-sided cable of ultra-flexible Litz wire and a gold-plated stereo 1/8-inch connector with strain-relief spring.

In The DJ Booth

Professionals working in live DJ situations are also well catered for in the current Audio-Technica range. Both the ATH-PRO700 Mk2 and ATH-PRO5 Mk2 are updated versions of popular

Audio-Technica models, introduced in 2011 with new features resulting from feedback from users.

The high-performing PRO700 Mk2 now benefits from larger 53mm drivers designed exclusively for the model which, in conjunction with an impressive 3,500mW of handling power and 5-35,000Hz frequency response, make the upgraded headphones ideal for immersive listening in loud environments. In line with their DJ-oriented design, the PRO700 Mk2 earpieces swivel between 50 and 90 degrees for one-ear operation, and the newly updated model is supplied with two detachable cords (coiled and straight) for flexibility and user serviceability in the field.

Larger drivers are also part of the PRO5 Mk2's feature list – the new version has 44mm types that offer excellent clarity with rich bass and outstanding vocal projection. The very high SPL capability delivered by the headphones is of key importance to DJs, as are their rotating circumaural earpieces. The earpiece design ensures accurate monitoring and isolation from room noise during sets, and one-ear use when required.

The newly updated ATH-PRO700Mk2 features bigger drivers and detachable cable.



audio-technica
always listening

Audio-Technica Limited (UK)

Technica House, Royal London Industrial Estate
Old Lane, Leeds, LS11 8AG, UK
t +44 (0) 113 277 1441
e sales@audio-technica.co.uk
w www.audio-technica.com

Audio-Technica U.S., Inc.
1221 Commerce Drive
Stow, Ohio 44224 1760
t +1 330 686 2600

The Producer's Take

Audio-Technica's ATH-M50 headphones have found favour with some of the world's finest engineers and producers. Among its fans are Grammy award winners George Massenburg (James Taylor, Linda Ronstadt, Earth, Wind and Fire) and Ed Cherney (Rolling Stones, Bryan Adams, Eric Clapton). Of the M50s Massenburg says, "Audio-Technica has raised the bar once again – these headphones are by far the favourite in our studio", while Cheney reveals that, "Since I got my M50s I actually enjoy mixing and referencing on headphones. They are now an integral part of my process. They absolutely translate with my speakers, but most importantly they translate to the outside world."

Optimal Sound As The Measurement Of All Things

Since the Eugen Beyer electrical engineering factory was founded in 1924, beyerdynamic has been synonymous with German-made applied high technology in the professional audio electronics sector. More than 86 years later, beyerdynamic still develops and handcrafts premium headphones and headsets in Germany. Each of them evidences true passion and know-how for an outstanding sound experience. The latest innovations include Tesla technology drivers and the Headzone PRO XT 5.1 headphone monitoring system.

Standard Setting Headphones from beyerdynamic

beyerdynamic was a headphone pioneer from the very beginning. Milestones in beyerdynamic's history are reference products for professional use to this day. Professional studio headphones must feature one thing above all: excellent sound. Even the finest nuances in the overall spectrum must be audible. Decades of independent tests from trade magazines and user evaluations around the world testify to the excellent sound quality and top detail results of beyerdynamic headphones. Headband constructions and easy-to-replace ear pads guarantee the maximum wearing comfort needed for daily use.

DT 770 PRO Reference Studio Headphones

The closed DT 770 PROs (available with 80 or 250Ω systems) are surely one of the most popular headphones in studios around the world. They convince with their natural and well-balanced sound characteristics: a bass reflex system for deep and true bass response, extremely detailed high and mid-range reproduction, and an extended frequency response (5-35,000 Hz). Sibling products are the DT 880 PRO (semi-open) and the DT 990 PRO (open) headphones.



DT 1350 High Output, Analytical, Robust, Comfortable, Stylish

Handcrafted in Germany, the DT 1350 is the first professional monitoring headphone in beyerdynamic's new generation of headphones featuring the Tesla technology.

A maximum sound pressure level (129dB SPL max) and a high ambient noise reduction mean the headphones perform well even in noisy environments.

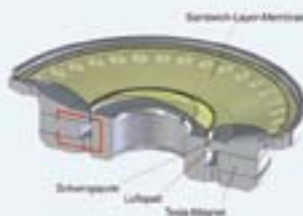
The functional and stylish design uses high quality materials to create headphones that are both easy to use and extremely durable.



Tesla Technology

The completely re-engineered Tesla sound transducers (used in different beyerdynamic models like the DT 1350, the T1, and the T5p) help achieve almost lossless magnetic flux. This is made possible by the brand new system geometry, which allows the transfer of magnetic force to the voice coil to be as efficient as possible. Traditional dynamic systems use a neodymium magnet at the centre of the system, the size of which was inevitably limited by the size of the voice coil. The Tesla principle sees the magnet mounted as a ring around the coil, allowing more energy to be directed to the membrane, which is where it is actually required.

The exceptionally pure sound produced by our Tesla systems is the result of the close attention to countless small details. Especially noteworthy is the ring-shaped magnet, which allows our engineers to place a drill-hole directly behind the centre of the membrane in order to minimise disruptive resonances. The use of a special, multi-layer membrane effectively suppresses unwanted partial vibrations and resultant distortion. Another special feature of the Tesla systems is their full-metal design. This prevents any uncontrolled resonances in any part of the casing, which might in turn distort the sound.



beyerdynamic GmbH & Co. KG (HQ)
Theresienstrasse 8, 74072 Heilbronn, Germany
t +49 7131 617 440
w www.beyerdynamic.com

US distribution: American Music & Sound
22020 Clarendon St, Suite 305
Woodland Hills, CA 91367, USA
t +1 800 431 2609
w www.americanmusicandsound.com

UK distribution: Polar Audio UK Ltd.
17 Albert Dr, Burgess Hill, West Sussex RH15 9TN, UK
t +44 (0) 1444 258258
w www.polaraudio.co.uk

The KNS Series of Headphones from KRK

room analysis and correction system is revolutionary. Now you can enjoy the same KRK engineering and innovation when using headphones. The KNS series are designed to provide what KRK has been delivering for 25 years: sonic accuracy, transparency, and consistency. And, with KRK you are assured that

KRK Headphones provide a precise listening experience that takes you from personal studio to commercial studio to on-the-go track evaluations – and they allow you to evaluate and enjoy your music with the consistent voicing philosophy and honest reproduction top producers, studio musicians, performers, and engineers have come to trust. KRK headphones provide incredibly natural frequency response that gives you a reference standard unaffected by your location. Day or night. Studio or home. Without disturbing others. Without compromising your tracks. Whether you are listening to some tracks, or tracking your next recording, the KNS series gives you the famous KRK sound in an extraordinarily comfortable closed-back around-the-ear design with highly isolated surround pads. Having 'One Voice' that consistently gives you accurate reproduction of your music or mix will help you achieve just what the artist intended – especially when the artist is you.

"The first thing I want to know is whether the low frequencies are there. Does it feel like the Expose monitors? And it totally does, the comfort is incredible. They are lightweight – not these big, old heavy headphones that you feel like you want to take off after wearing them for five minutes. Now when I take my mixes home or when I'm travelling, I can plug my KKR headphones into my laptop and feel like I'm still in the studio. That's important when you're making hits for the radio; you have to be spot on."

Rodney "Darkchild" Jerkins, Producer (Lady Gaga, Beyoncé, Britney Spears, Mary J. Blige)

"When its past 10pm and the kids are sleeping and you need to get this one more mix finished, and you have to change from your speakers to your headphones, you're not losing anything. In a studio situation you're wearing headphones for 12 hours, 14 hours, 16 hours. They've got to be comfortable. They've got to be closed back because you're going to record with them."

They've got to have a long cable with a volume control on the cable that's convenient. These have them. That's great. A pair of headphones that gives you a really honest representation of what's going on, they can be invaluable, and it's probably the cheapest thing you'll buy for your studio. Most headphones make you happy, these headphones might make you sad if your mixes aren't good – and that's what I want my clients to have, I don't want them to be fooled into thinking their mixes are great!"
Stephen Marsh (Mastering Engineer)



KRK Systems, Inc. – Europe
382 Avenue de la Couronne
1050 Brussels, Belgium
t +32 2 645 05 00
f +32 2 645 05 05
e eurooffice@stantoneurope.com

Focusrite Audio Engineering LTD.
Windsor House Turnpike Road
Cressex Business Park High Wycombe
Bucks HP12 3FX UK
t +44 (0) 1494 462 246
e sales@focusrite.com

KRK Systems, Inc. – Corporate Offices
772 S. Military Trail, Deerfield Beach, FL 33442
t +1 954 949 9600
f +1 954 949 9590
e service@krksys.com
w www.krksys.com

Sennheiser Monitoring Headphones – Innovation and Expertise Combined

After more than half a century of innovation, Sennheiser continues to push the boundaries of what headphone technology is capable of delivering.

For more than 60 years, Sennheiser microphones and headphones have consistently offered the very best in audio performance. The company's products are trusted by professionals worldwide and are used on a daily basis on live stages, by DJs and in studios. The name Sennheiser is synonymous with the highest audio quality, and the company delivers a diverse range of monitor headphones to suit a comprehensive range of applications.

HD 25-1 II

The closed-back HD 25-1 II is probably the most widely used headphone from the Sennheiser range by both live sound engineers and DJs. Offering high attenuation of background noise, they perform exceptionally well in challenging environments – for example ENG, sound reinforcement, studio monitoring, and audio equipment testing – and are capable of delivering very high sound pressure levels. Their lightweight construction and comfortable design means they are suitable for long periods of use, yet they are also extremely robust for coping with the rigours of touring life. Featuring a tough, detachable steel cable, Neodymium ferrous magnet systems, lightweight aluminium/copper voice coil, and a rotatable capsule for one-ear listening, the HD 25-1 II has a 70Ω nominal impedance for universal compatibility.



HD 280 Pro and HD 380 Pro

A closed-back, circumaural headphone designed for professional monitoring, the HD 280 Pro is suitable for a very wide range of applications. The exceptional 32dB attenuation of external noise makes it particularly suitable for use in high-noise environments.



The HD 380 Pro provides excellent passive attenuation of ambient noise and an extended frequency response of 8-27,000Hz, utilising Sennheiser's Ergonomic Acoustic Refinement (E.A.R.) design, which channels the audio signal directly into the user's ears.

Both models provide accurate sound reproduction for all kinds of demanding use, while the lightweight and secure-fit design offers a very comfortable, long-duration listening experience.

HD 25-SP II

The HD 25-SP II are closed-back, dynamic headphones for monitoring, recording, and outdoor applications. A lower-cost alternative to the HD 25-1 II, featuring a simpler headband and slightly different capsule design, several high-end features of the more expensive model are included, for example neodymium ferrous magnet systems, lightweight aluminium/copper voice coils, a tough, detachable OFC cable, high maximum sound pressure level, and a very lightweight and comfortable design.

HD 800

Incorporating Sennheiser's most advanced driver technology, the HD 800 open-back, circumaural dynamic stereo headphones redefine the standard of reference-level audio. The reference-grade audio performance is matched by a striking design. The ring-shaped transducer is encased by a precision material made of stainless steel, while the ear pads are handcrafted from a high-quality microfibre fabric that is extremely comfortable to wear and easy to maintain. Featuring a specially-designed, four-wire, high-performance cable with Teflon insulation, the HD 800 delivers the ultimate in both audio and aesthetic performance.



HD 650

The audiophile HD 650s were developed from the award-winning HD 600 and feature improved materials for even better sound reproduction. Key features of these high-end headphones include highly optimised magnet systems for minimum harmonic and intermodulation distortion, lightweight aluminium voice coils to ensure excellent transient response, and a specially developed damping element, made from fine acoustic metal mesh, which guarantees a precise damping over the entire diaphragm surface and ensures consistency in all climates.

HD 600

The ideal choice for professional engineers recording classical music, the HD 600s deliver exceptionally natural, spatial and accurate sound, with an advanced diaphragm design that eliminates standing waves in the diaphragm material. Other features include computer-optimised neodymium ferrous magnet systems for optimum sensitivity, a wide dynamic range, and minimised harmonic and intermodulation distortion. Lightweight aluminium voice coils ensure excellent transient response, while high-quality, open metal mesh earpiece covers result in an extremely transparent sound.



Sennheiser electronic GmbH & Co. KG

Am Labor 1
30900 Wedemark
Germany
t +49 (5130) 600 0
f +49 (5130) 600 300
w www.sennheiser.com

Sennheiser U.K Ltd

3 Century Point
Halifax Road
High Wycombe
Bucks HP12 3SL
t +44 (0) 1494 551551
f +44 (0) 1494 551550
w www.sennheiser.co.uk



Shure SRH Series Headphones

Shure's SRH Series of studio referencing headphones offer monitoring solutions for a wide range of potential users, from the home/project studio engineer, to the recording engineer, all the way up to the studio professional.

SRH440

The SRH440 headphones are designed for recording and monitoring in the comfort of your home studio. Power handling, sensitivity, and impedance have all been optimised to achieve high quality performance with pro-audio devices such as mixing consoles, DJ mixers, and headphone amplifiers. Features include a dynamic, neodymium-magnet transducer, a 40mm driver, 105dB SPL/mW sensitivity, a maximum input power of 500mW, and an enhanced frequency response designed to deliver accurate audio over a 10Hz-22kHz frequency range. A closed-back, circumaural



SRH440

design rests comfortably over the ears and reduces

background noise, and an adjustable headband and collapsible construction provides extra comfort and portability. The SRH440s are Shure's entry-level professional studio referencing headphones, priced at £109.99.

SRH840

The next step-up in the SRH Series are the SRH840 headphones, which are designed for professional audio engineers and serious musicians in applications such as studio recording and critical listening. The SRH840s have the same closed-back, circumaural design as the SRH440s, and include a wide, padded headband designed to provide an ergonomic fit for superior comfort over extended periods.

They have a precisely tailored frequency response to deliver rich bass, clear mid-range, and extended highs, and a collapsible design provides easy storage and portability, with the included carrying bag giving the headphones protection. Features include a dynamic, neodymium-magnet transducer, a 40mm driver, 102dB SPL/mW sensitivity, a maximum input power of 1000mW, and a wide frequency range of 5Hz-25kHz. The SRH840s are priced at £199.99.

(straight and coiled) and a replacement set of velour ear pads, ensuring a long-lasting lifetime of use; and feature the same closed-back, circumaural design as the rest of the models in the range resting comfortably over the ears and reducing background noise, plus a zippered hard case which offers complete protection when not in use. The SRH940s will be priced at £249.99.



SRH940

SHURE

CONTACT DETAILS

Shure Distribution UK

Unit 2, The IO Centre Lea Road, Waltham Abbey Essex, EN9 1AS

t +44 (0) 1992 703058

f +44 (0) 1992 703057

e info@shuredistribution.co.uk

w www.shure.co.uk



SRH840

SRH940

At the top of the SRH Series sit the SRH940 headphones, which are due to be released in June this year. These headphones are designed for professional audio engineers and studio professionals, and provide accurate response across the entire audio spectrum to deliver smooth high-end extension with tight bass. They will come with two detachable cables

HEADPHONES 2011

First Choice For Professionals

Specialist In Headphones

Ultrason, founded in 1991, is located close to the Alps in South Germany and specialises in headphones. Day-to-day commitment leads to explicit expert knowledge and makes Ultrason one of the leading developers and manufacturers of headphones throughout the world. Constant development leads to high quality pro headphones equipped with the latest technologies and beneficial accessories.

Ultrason's Technologies Are Unique

Ultrason invented the inimitable S-Logic™ Natural Surround Sound and Ultra Low Emission technologies, thus integrating safer hearing aspects without neglecting the latest technologies. The consideration of all these aspects is fundamental for modern headphones.

S-Logic™ Technology

Unique? Yes! Revolutionary? Definitely! The patented S-Logic™ technology is described as 'Natural Surround Sound System'. No other digital surround system can compare with this standard. The sound of normal headphones will sound direct and even on both sides, while the S-Logic™ system pushes sound around your head. It appears as though you are listening to speakers metres away. Even at very low levels, this spacious sound allows you to hear and listen to each and every individual sound. And on top of that, the S-Logic™ technology does not require additional equipment!

How does

S-Logic™ work?

S-Logic™ sends music around your head, not just into it, because this technology uses decentralised driver positioning. Did you know that you use and need the outer ear for your three-dimensional understanding to define the direction and distance of where a sound comes from? Instead of hitting the inner ear directly, with S-Logic™ the signals are reflected off the surface of the outer ear in different directions before entering the auditory canal, to create a natural three-dimensional sound. S-Logic™ is the only headphone system that includes your entire sense of hearing. S-Logic™ does not change your personal hearing, but it intensifies it for your individual needs and listening pleasure. S-Logic™ doesn't need artificial echo, digital sound processing, or cross over run time delay. You can hear the sound just the way the sound engineer has mastered it.

Ultrason's ULE-Technology

Most headphone drivers produce low-frequency magnetic fields as they convert an electrical signal into the acoustical signal that we hear as music. Ultrason has developed a special MU-Metal shielding that we call ULE (for Ultra Low Emissions) to reduce this radiation by up to 98%, compared to conventional headphones. This technology has withstood the test of international review and is recommended by technical surveillance organisations.

Ultrason originally developed ULE-technology for professionals, since they spend half of their lives in headphones.

Safer Hearing

S-Logic™ allows at the same time a reduction of sound pressure levels at the eardrum by up to 40% (3-4dB).

This may reduce the risk of hearing damage while ensuring hours of fatigue-free listening.



Professional Sound Quality & Accessories

The highest sound quality is guaranteed due to high profile technologies and high-class materials. Naturally, Ultrason headphones offer accessories desired by professionals to support day-to-day needs in the studio or on the road. The headphones are placed in a safe transportation box together with accessories such as extra detachable cable and extra earpads.



ULTRASON
THE headphone company

Take a closer look at our website. The options are yours to explore. If you have any questions, please feel free to contact the Ultrason team any time.

Ultrason

w www.ultrason.com

e Infodesk@ultrason.com

THE ROCK

TRUE FIDELITY...



FAST, ACCURATE, DETAILED

BESPOKE E.A.R. DISCRETE CLASS A/B AMPLIFIER | CLOSED CABINET DESIGN
CORIAN FRONT BAFFLE | 50KHZ FOLDED RIBBON TWEETER | BRUTALLY HONEST

“A very revealing monitor that’s hugely informative about the mix and very easy to work with,
even on long sessions” Hugh Robjohns – Sound On Sound

UNITY AUDIO LTD

FOR MORE INFORMATION CALL UNITY AUDIO ON 01440 785843
F: 01440 785845 E: SALES UNITYAUDIO.CO.UK WWW.UNITYAUDIO.CO.UK